TIME TO RE-ENERGISE THE EU'S CAPITAL MARKETS

Building investable and competitive ecosystems

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This study reflects the discussions held among the members of the 'Round Table on the EU's Capital Markets', which was initiated and brought together by Karel Lannoo. The Round Table was composed of a group of eight industry leaders representing market operators and infrastructures, banks, an asset manager, and a corporate entity active in the beverage industry. Meetings were held on four occasions between April and September 2022.

The views expressed in this report do not necessarily reflect the views and positions of the Chair or the members of the Round Table, nor the views of their respective companies. The members do not necessarily agree with all the positions put forward and do not necessarily endorse the references to academic and independent studies. A robust and clear set of principles has guided the drafting process in order to preserve a balanced approach to a variety of views. All members were given ample opportunity to express their views, which are reflected in the final text. The content of the report and any remaining errors, however, can be attributed only to the rapporteurs.

The report has benefited from a series of informal discussions with both European and international authorities. The rapporteurs gratefully acknowledge the contributions provided by all participants in the Round Table, and in particular by the Chair, Lieve Mostrey. A list with the composition of the Round Table is provided below. We are also very grateful to Ludovic Aigrot, Jenny Cosco, Julien Jardelot, Leon Lopez Cuervo, Pablo Malumbres, Pilar Martinez Martinez, Véronique Ormezzano, Ilse Peeters, Satchit Sagade, David Postius Sánchez, Alicia Sanchis Arellano, and Leen Vermeersch for sharing their views and contributing to this report. Thanks are also due to Cosmina Amariei for her contribution to this report, as well as Beatriz Pozo and Ornella Martini for managing the Round Table.

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Foreword

Rapidly changing technological developments, the geo-political climate, and the EU's strategic ambitions warrant another perspective on capital markets and on how they can maximise the EU's potential to support the financing of the real economy. To achieve this, European capital markets need to be truly resilient, integrated, and open. Market infrastructures, operators, and financial institutions should support and manage the market dynamics of supply and demand and be able to serve and finance the prime economic actors (e.g., the public, companies, governments). A strong and attractive financial sector is thus a key contributor towards Europe's recovery and transformation as it faces tough economic conditions.

New facts and figures are included in this report that aim to illustrate the current state-of-play of the EU's capital markets, as well as the scope for additional growth in Europe. Capital market developments in the EU and the US are progressing at an increasingly different pace, indicating a need for the EU to adapt some of its supervisory and legislative practices. Regional differences on capital raising between the EU's Member States indicate a need to look for solutions that ideally contribute to developing the local market while also supporting the EU's capital markets as a whole.

The overall recommendation of the Round Table is to leverage the strengths of each Member State to raise capital and attract investors, while supporting those Member States that wish to develop their local capital market further. More specifically, a set of concrete and tangible measures is being provided to drive the debate forward, and to help re-establish trust towards building a desirable world for future generations.

These measures aim to contribute to the following overall objectives: i) rising to the challenges that have a real impact on the EU's economy and its citizens, ii) facilitating an environment where issuers and investors can access funding and investments adapted to their size and risk appetite and iii) responding in a manner which creates the least possible friction and represents the most transparent route between issuers and investors.

We should strive for capital markets that are as attractive as possible. Since the launch of the first Capital Markets Union Action Plan in 2015, a single EU approach has led to significant gains and efficiencies. The evidence of this success and also of the European Central Bank's (ECB) infrastructure projects could be seen in the way in which market operators and financial institutions have withstood recent crises. A single EU approach is not, however, the only available route towards flourishing capital markets and can come at a cost largely born by the financial sector and does not necessarily provide the desired outcome for investors or issuers.

This report examines various examples, including the implementation of the settlement discipline regime, among others. Especially in a world which is rapidly digitalising, additional dimensions must be considered to ensure that Member States, the EU as a whole, and its citizens, share and reach common objectives. The recommendations in this report should be seen against the background of the potential that digital technologies offer and their capacity to increase connectivity between financial centres.

Rebuilding trust is vital to creating an environment in which market operators and financial institutions can fully deploy their benefits to both policymakers and the market's prime economic actors, such as risk-reduction and large-scale resilience. Trust in laws and regulations as being efficient and fair in organising the financial system, trust in self-regulation, standardisation, and market dynamics to manage the pools of liquidity between financial centres, is essential. I fully support the suggestion made in this report to engage in a structured and constructive dialogue between market participants and EU institutions, so as to deliver small and – ultimately – big successes in an incremental manner.

It is high time to see how the financial industry can further support resilient, green, and digital capital markets. These should be based on sound risk sharing mechanisms between banks and market-driven capital markets, on legislation that supports market functioning and that remains technology-neutral, and on standards and rules that are targeted and aligned with global standards. Digitalisation should thus remain at the service of capital markets and the financing of the real economy, enabling market operators and financial institutions to embrace the past to build an improved future.

This report is a call to 're-energise' the EU's capital markets. Moving forward, there is need for a pragmatic, measurable, and implementable approach based on a mutually beneficial relationship between the EU and all its Member States. The recommendations made here will surely contribute to this approach. It has been my pleasure to act as Chair of this Round Table and to contribute to meaningful conversations amongst all its participants.

> *'Going forward, we need a pragmatic, measurable, and implementable approach that is based on a mutually beneficial relationship between the EU and all its Member States.'*

Lieve Mostrey

Chief Executive Officer and Executive Director of the Euroclear Group.

Active member of Febelfin's Women in Finance, Strategic Committee of the Federation of Belgian Enterprises (VBO-FEB) and the General Council of the Vlerick Business School in Belgium.

Executive summary

Despite decades-long efforts, most recently with the Capital Markets Union initiative, market finance remains insufficiently developed in Europe, affecting the competitiveness of the financial services sector and the EU's economy more generally. A new approach towards a more balanced financial system, which draws more efficiently on market finance, is thus required. This approach should be based on prioritising local capital market development measures, above all in those countries where market finance remains limited.

A 'funding escalator' should be used to monitor local/regional market ecosystems, indicating where gaps exist in the different stages of market finance. Market development benchmarks in the form of key performance indicators can be used as guidance. European policymakers should be assisted by a high level, standing advisory group of market participants that make recommendations on a regular basis.

Retail investors should be at the centre of any new effort to stimulate market finance. An 'investment riskometer' can help to assess channels for retail (and institutional) investment participation in capital markets. Long-term saving plans are often a good tool to provide households with balanced long-term returns, while at the same time strengthening liquidity in local markets. Improving access to finance for SMEs and retail borrowers by building an efficient securitisation market will allow for the rebalancing of financial risks between the banking and non-banking sectors, and benefit the long-term growth of the EU economy.

While EU harmonisation measures have worked in some capital market domains, they have been less successful in others. The EU therefore needs to secure the core principles of mutual recognition and interoperability in capital markets, including by means of ESMA's peer pressure on national authorities and streamlining the EU's supervisory structure. This should demonstrate the equivalence of supervisory outcomes to minimise the costs associated with supervisory divergence in practice. Thus, review clauses should be limited in time and depth to reduce regulatory uncertainty. For Europe to become investable, attractive and competitive, it should remain as open as possible and strengthen the stability and continuity of the legislative framework.

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'As Europe is facing massive investments needs, amid high sovereign indebtedness and rising rates, unlocking private funding is a top priority.'

Philippe Bordenave, Senior Executive Advisor, former COO, BNP Paribas

'Europe must move forward, adapt its framework to new realities and keep the needs of their citizens and companies at the centre of its capital markets strategy.'

Jos Dijsselhof, Chief Executive Officer, SIX

'The level of frustration that EU listed companies must go through, in acknowledging the differences between the many European national markets and the US, is hard to describe. It is about time to finally correct this and move full speed towards a single and integrated European financial market.'

Luca Garavoglia, Chairman, Campari Group

'Without an integrated markets regulatory framework across Member States, we will never unlock the full competitive potential of the European Union.'

Jose María Linares, Senior Executive Vice-President, Banco Santander

'Bringing the EU Capital Markets forward is paramount for financing Europe´s green transition and digital transformation.'

Allan Polack, Former Chief Executive Officer, PFA Pension Forsikringsaktieselskab

'To ensure Europe remains an attractive and competitive place to do business, we need to encourage a diversified ecosystem with the free flow of capital, services and technology within and outside the EU.'

David Schwimmer, Chief Executive Officer, London Stock Exchange Group

'To develop the economy and jobs, efficient capital markets and financial ecosystems are more important than ever, SMEs and retail investors have to be an integral part of them.'

Bjørn Sibbern, President of European Markets, Nasdaq

'Strengthening the EU's single market will enable us to better participate at a global level, as an open jurisdiction that is attractive for outside investors and one that allows EU companies to be competitive beyond its borders.'

Commissioner McGuinness, keynote address at FIA Conference (16 March 2021)

1. Introduction

A rapidly changing geopolitical context highlights the vital importance of the EU reaching its objectives to support capital market financing of the real economy. Many of the 2020 Capital Markets Union (CMU) New Action Plan initiatives have progressed long-standing efforts to strengthen the resilience of the EU's capital markets ecosystem and have achieved the intended policy objectives. However, many of the recommendations of the High Level Forum on the Capital Markets Union (2020) have not yet been implemented and there is still a lot of work to be done to further develop and deepen European capital markets in Europe. With a political agenda that has been overtaken, understandably so, by other concerns (e.g., the Covid-19 pandemic, geopolitics, and energy policy), regaining the momentum for building the EU's capital markets calls for a clear vision from policymakers and for decisive action on key points.

While creating vibrant capital markets in Europe has been on the agenda for a long time, this goal appears to be receding rather than coming closer. Deep and liquid capital markets are crucial for Europe's competitiveness, to growing and strengthening its corporations, and to improving the performance of its economies. Well-regulated and efficient markets allow for the allocation of savings into productive investments and for facilitating the green and digital transition. It should thus be an absolute priority to ensure that the EU creates a market finance ecosystem which supports access by issuers and investors to finance and investment opportunities adapted to their size and risk appetite.

The political commitment to strengthening capital markets and, accordingly, to market finance, is variable. Although market financing is complementary to, rather than the substitute of, bank financing, its importance and the factors shaping its development are not sufficiently well understood.

Furthermore, while Europe has an abundance of bank finance and of household savings, capital market financing remains underdeveloped and, relatedly, state ownership of or influence on the financial system continues to be significant. As such, it is important to acknowledge in the policy debate the structural and political differences between EU capital markets and those of the US, which serve as the benchmark in this context.

Importantly, as this study demonstrates, European capital markets have indeed developed in recent years. Equity and bond markets have strengthened, and the amount of pre-IPO risk capital invested has increased, while the number of trading venues for debt and equity has grown significantly (reflecting the EU's Markets in Financial Instruments Directive (MiFID) II market harmonisation measures)[1]. Though, much remains to be done as the EU and Europe are losing out to the US, both in terms of fund-raising by domestic issuers as well as in attracting foreign issuers[2]. These weaknesses are documented in the report, alongside recommendations on how to re-energise the EU's capital markets.

At the same time, it is important to ensure that the financial sector which underpins the functioning of capital markets, and thus supporting the financing of companies and investor access to returns, remains strong and competitive, not only within the EU and across the Member States, but also globally. This requires open capital markets that enable and support the free flow of capital and services and, relatedly, a regulatory framework that is flexible, proportionate and efficient enough to ensure no barriers to the enablers of strong markets.

The EU financial sector is governed by a vast rulebook that is subject to recurrent review, extensively amplified by soft law and shaped by different supervisory perspectives. Many of these rules have achieved their intended policy objective(s), others are still in the process of becoming embedded, while some may have led to higher costs and hampered the ability of financial institutions to be active in capital markets. Thus, it is of fundamental importance to improve the attractiveness of EU capital markets and the competitiveness of these actors which operate within them, as well as the overall effectiveness of the EU regulatory framework.

[1] According to the European Securities and Markets Authority's (ESMA) latest data, in 2020 (excluding the UK), there were 127 regulated markets (RMs), 142 multilateral trading facilities (MTFs), 27 organised trading facilities (OTFs) and 172 systemic internalisers (SIs).

[2] European companies (and start-ups) are too often forced to seek out to the US for equity capital. This is the case even in sectors where the EU is a world leader, such as biotech where raising large capital sums in IPOs on European stock markets has continued to be difficult. The mean size of European biotech IPOs was four to five times larger on US exchanges than on European exchanges (McKinsey, 2021).

2. The EU's capital markets ambitions

The EU has been through different waves of regulatory fine-tuning – from the 1992 Single Market Programme (SMP), to the Financial Services Action Plan (FSAP), to the financial crisis adjustments and on to the CMU packages 1 and 2. The ambition to have, as for other services, a truly single capital market, or, in the current terminology, a Capital Markets Union, has worked well as a driver of the reform process, but not necessarily as effectively for the development of securities markets. In some domains, such as, for example, investment funds (i.e., the Undertakings for the Collective Investment in Transferable Securities (UCITS), the Alternative Investment Fund Managers Directive (AIFMD)) and covered bonds, the EU has been successful, but not, for example, as regards a truly single initial public offering (IPO) prospectus. The related disclosure framework remains very national and heterogeneous.

The entire legislative package, as developed over the last 30 years, is composed of many different (over 50) legislative acts, which, with the related delegated acts, has become a corpus of European securities markets law. With the creation of the European Securities and Markets Authority (ESMA) in 2011[3], the EU also now has a central institutional actor to 'exert a decisive technocratic influence on EU financial market governance', 'tilting it slowly certainly but perhaps inexorably in the direction of becoming the long predicted single supervisor' of the EU (Moloney, 2018). Most key securities markets acts contain five-year review clauses, which implies that re-assessments of the body of EU securities law are now more-or-less constant. ESMA is playing a key role in this process, as initiator of the reviews, and later in developing delegated acts, adopting guidelines and other soft law, and overseeing related supervisory practices.

But what is the core strength of a capital market, and what is a union of capital markets? EU national capital markets have advanced, but they remain fragmented and at very different stages of development, as a result of varying local market structures and diverging supervisory approaches. This has hampered market attractiveness, depth, and liquidity, which is driving up funding costs (notably in smaller and less developed markets). For example, the perception is that the level of investor protection is not the same in different markets, notwithstanding years of regulatory harmonisation and related supervision and enforcement (Colaert, 2018; Invest Europe, 2020). Although the single rulebook has significantly limited the scope for divergence, local implementation practices and interpretations of rules can still differ from country to country. Ultimately, this can create information asymmetries, or the 'market for lemons' (Akerlof, 1970), where the less well-regulated drives out the good (O'Driscoll and Hoskins, 2006). Accordingly, there is an acute need for more consistent (i.e., centralised) and integrated

[3] ESMA was founded as a direct result of the recommendations of the 2009 de Larosière report which called for the establishment of a European System of Financial Supervision (ESFS) as a decentralised network. The aim was to safeguard the stability of the EU's financial system by enhancing the protection of investors and promoting stable and orderly financial markets.

supervision, which is key for improving the attractiveness of the European financial ecosystem[4]. While this does not necessarily equate to a single supervisor, it does call for an imaginative and sustained attempt to address the costs associated with fragmented supervision.

One option, and in particular in light of the limits of supervisory convergence amongst the 27 Member States, would be to give more powers of supervision to ESMA, in an effort to ensure tighter supervision and enforcement[5]. Another often-canvassed option is centralised supervision, which could be developed in an evolutionary manner. For example, a single supervisor could be developed for financial services players that operate cross-border, and the current framework (i.e., National Competent Authorities (NCAs) and ESAs) maintained for national players.

2.1. Support the real economy

Well-functioning capital markets complement bank finance and public investments. They need a specific regulatory toolbox to ensure that the demands of investors and issuers match, and they tend to concentrate in financial centres that provide the ecosystem and depth that markets need. Capital markets also contribute to financial stability, as was demonstrated during the 2008 global financial crisis, by allowing quicker recovery for firms than bank-based systems (Pagano *et al*., 2014; Cambacorta *et al*., 2014; Bats and Houben, 2020). A deep market, for example, allows firms to fund investments with bonds after a credit crunch.

Equity-driven financial systems allocate capital more rapidly to innovative investments (De Haas and Popov, 2022). Equity investors, which are by definition more risk-willing and therefore better at supporting risky start-ups and growth companies, tend to fund sectors rich in intangibles and typically have a longer-term investment horizon. This was the case with investments in digital technologies, and is the case today with green investments. Countries with a higher share of equity financing tend to reduce their carbon footprint more rapidly (Born *et al*., 2021). Thus, the ECB's President Christine Lagarde called for a green CMU, where standards for green investment accordingly need to be unified.

An often-heard criticism, is that Wall Street is not Main Street[6]. In effect, market valuations do not correspond with the contribution of economic sectors to GDP. During the Covid crisis, valuations of big tech exploded, reaching 1/3 of the US market, as compared to a real GDP contribution of 8 % (Goedhart *et al*., 2020). But while markets are forward looking and volatile, and may overreact to certainty and uncertainty, they are overall a fairly good predictor of future

[4] In its 2017 review of the European Supervisory Authorities (ESAs), the European Commission triggered a process for further supervisory integration by proposing a radical expansion of the ESMA's competences. However, the proposal tried to kill too many birds with one stone, without changing the final decision-making structure of the ESAs (Demarigny and Lannoo, 2018). Although the 2019 review confirmed the importance of the ESAs, it only led to limited changes in their structure (Lannoo, 2020). ESMA was given new competencies but these remain limited in terms of the ultimate objective to create the CMU.
[5] See for example ESMA's recent recommendations on the supervision of cross-border activities of investment firms.
[6] See for example, Rogers, A. (2019), 'Reminder: Wall street does not equal main street', Seeking Alpha, 10 July; White, M. (2020), 'Why is Wall Street soaring while Main Street is burning?', NBC News, 3 June; Harrison, E. (2022), 'The Fed tried to protect main street. Now It may have to make everyone suffer', 15 June.

economic growth. Although different (i.e., the Wall Street and the Main Street), they support each other and are both indispensable to form an efficient economy. Main Street needs Wall Street to attract funding and vice versa. In the period 1977-2017, equity market returns predicted an average of about 38 % of GDP growth (Campbell, 2021). Furthermore, not all sectors of the economy – such as healthcare and other public services, or small businesses – are valued through the public markets[7]. A more comprehensive overview of the real economy should therefore include valuations of public investments, privately held companies, private equity, and venture capital funds, certainly in a world where, as is well documented, public listings are declining.

2.2. Develop domestic and regional capital markets

The EU and its neighbouring countries display a highly diverse capital markets landscape. This is the product of a combination of different levels of economic development, a variety of economic policies (from very liberal to a more command economy – and not only in the former Eastern bloc), and different phases in the EU's integration process. The oldest EU capital markets related measure – the Admissions Directive for the harmonisation of listing particulars – dates back to 1979 when the EU was composed of 9 Member States. One of the most successful measures, the regulatory framework for UCITS, was first introduced in 1985 when there were 12 Member States. Market finance trading venues operated in different forms all over Europe, and to very different degrees. In Central and Eastern Europe (CEE), for example, trading venues were re-established in every state after the end of Soviet rule; previously, most had been run as mutuals under state control.

Market integration has always been, and still is, the EU's first priority as regards capital markets (Baele, *et al*. 2004; Jappelli and Pagano, 2008; PwC, 2015; EC, 2015)[8]. But given the accession of new Member States which had to comply with the EU acquis, financial integration became a more complex project. Croatia for example, the latest Member State that joined the EU, was required to adopt the entire corpus of EU securities market. Alongside this requirement, and to compensate for the opening up of the local market to the EU's single market, new Member States received support from the EU's regional funds. Though, these funds were not necessarily

[7] This is because the economy and the stock market have different characteristics. The real economy has a lot of activity in sectors with few publicly listed companies. For example, the real estate and construction sectors, for the most part, are not made up of public companies. So are professional and technical services, as well as healthcare services. In addition, and in terms of employment, restaurants and hospitality play a major role, but there are only few publicly listed companies in those sectors.

[8] Since the Treaty of Maastricht, the free movement of capital has been the backbone of EU's single-market mission, aimed at allowing European citizens to complete financial operations (such as investments, banking transactions, and shares acquisitions) and companies to invest and raise cheaper capital uniformly across the EU. The introduction of the euro further boosted capital market integration in the European Monetary Union (EMU) until the 2007–08 financial crisis and the sovereign debt crisis of 2011 when this trend reverted (Howarth and Quaglia, 2013; ECB, 2018). In 2015 the CMU Action Plan, trying to respond to these negative trends, had as its core objective to better integrate and deepen capital markets in Europe.

directed towards the development of market finance but more towards alleviating adjustments in agriculture and older industries.

The huge diversity in capital market development (as illustrated below in Chapter 3) has led to several initiatives over the years to promote stronger integration, with varying degrees of success so far. One of the most recent initiatives was a feasibility study for a CMU Equity Market Index Family (CEPS, 2020). The aim of this study was to regroup a family of indexes, including for smaller and less developed markets that are neglected in today's main market indexes, and to stimulate market development more evenly. For example, the FTSE Developed Europe Index currently includes listed companies in only 14 EU Member States, as is also the case for the MSCI Developed Europe Index[9]. This narrow focus affects market development but it also limits opportunities for local entrepreneurs and international investors. Based upon feedback from stakeholders, the study found that there is limited to no potential for a CMU All Share Index. This is related to the costs of composing and replicating such an index, to limited demand, and to the diversity in Europe's capital markets.

The Commission's efforts have contributed to awareness as to the role of market finance. The main ambition is market integration, as the emphasis is on creating a 'Union' of capital markets – rather than first developing capital markets. However, given the costs of regulation, and the limits placed on local discretion, the effects may be to hamper market development in emerging and frontier markets[10]. As a response, policymakers have started to emphasise proportionality in how rules are applied, including as regards market development. Having said that, this trend has only emerged recently, and proportionality can be a difficult lever to use appropriately, certainly for investor protection. The difficulties in harmonising rules for small and medium enterprise (SME) Growth Markets (GMs) provide a good example. Nearly all SME GMs today operate in the most developed capital markets, with the exception of the SME GMs in the three Baltic countries (i.e., Estonia, Latvia, and Lithuania) and in Poland (CEPS, 2020).

2.3. Create competitive and attractive capital markets

The effectiveness of its capital market is an important factor in determining the growth prospects of a country or a region (Levine and Zervos, 1998; Dudley and Hubbard, 2004; Levine, 2021), given its importance to capital allocation (Wurgler, 2000; Laeven, 2014; BIS, 2019). A capital market, as part of a wider financial system performs three main functions: i) allocating a surplus liquidity from savers to investors, ii) decreasing the information asymmetry between borrowers and lenders, and iii) supporting risk management. Thus, how effective and well-developed a capital market is can largely determine how competitive and attractive it is.

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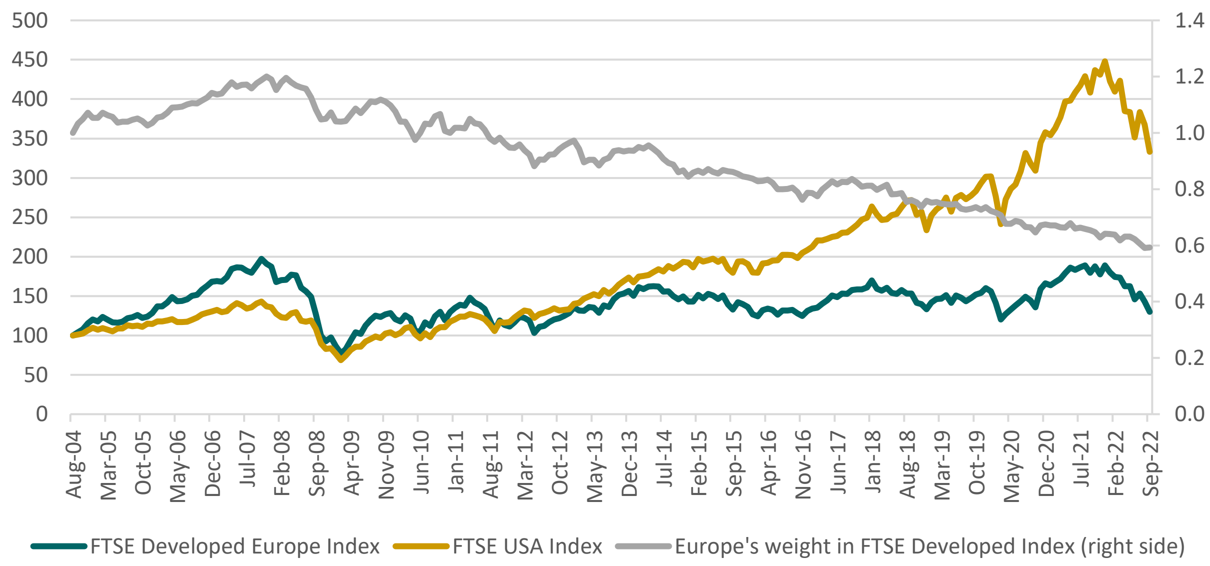
[9] These are: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Portugal, Spain, and Sweden. Index providers focus mostly on the coverage of global and developed markets, with some limited coverage of emerging markets, while neglecting frontier markets.

[10] For the classification of European markets into emerging and frontier, please see index provides such as FTSE and MSCI.

Efficient public capital markets can drive European economic growth, investment, and competitiveness, for the benefit of both investors and issuers. In particular, competitiveness can be defined as a relative capacity of a country, sector, or a market actor to manufacture products or provide services better than other participants on the domestic and/or international market. Currently, one of the biggest challenges facing European capital markets (and their competitiveness) is that while markets and capital are inherently global, EU capital markets are predominantly national in character (Bhatia *et al*. 2019; Ringe, 2019). For the EU to become more attractive and competitive as an investment destination for international capital it is essential to reduce the fragmentation and complexity of its capital markets. Furthermore, it is equally important to ensure that 'open strategic autonomy', currently an EU policy priority, remains as 'open' as possible. Europe needs to ensure that in bringing down barriers to more efficient capital markets within Europe it does not end up raising even higher barriers for capital markets at its perimeter with international markets.

Data reveals that the EU is still struggling to achieve competitive and attractive capital markets. The European capital markets still, as they have for years, lag far behind the US. Looking, for example, at the equity markets and the FTSE index, the US has advanced enormously over the last years, while Europe has remained flat (see Figure 1). On top of that, Europe's weight in the FTSE Developed Index has declined significantly over the years. This implies that the EU is losing out against its competitors in providing a developed and diverse financial system, where users of debt and equity capital can choose between different forms of bank and market financing. Improving the competitiveness of EU capital markets (and their actors), as well as the attractiveness of the EU regulatory framework, is of fundamental importance.

Figure 1. Performance of equity indices in Europe and the US

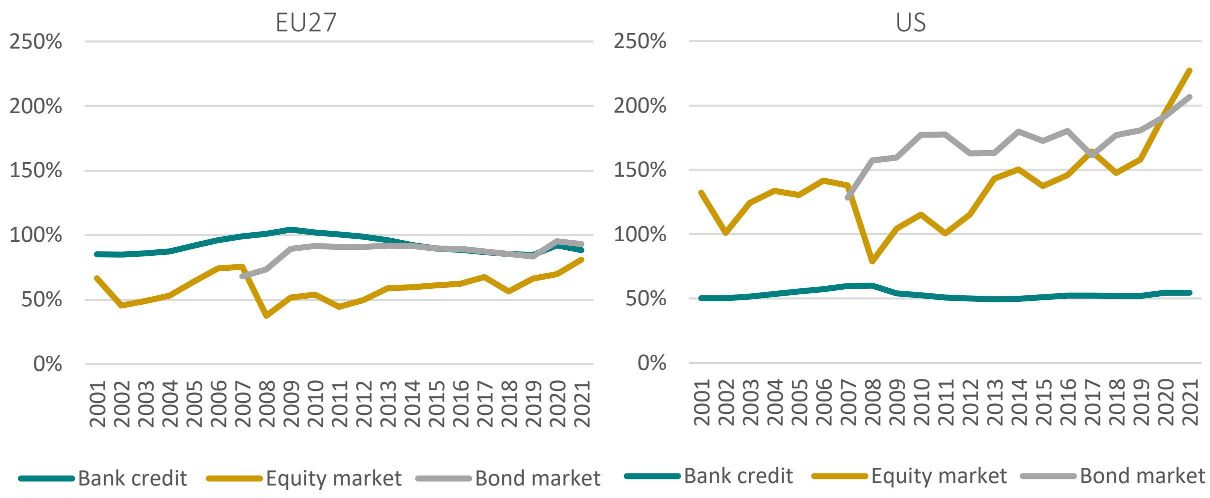


Notes: The graph plots the price of the FTSE Developed Europe Index, the FTSE USA Index, and Europe's weight in FTSE Developed Index for the period August 2004 to September 2022. The FTSE Developed Europe Index captures large and mid-cap representation across 16 developed markets countries in Europe (i.e., AT, BE, DK, FI, FR, DE, IR, IT, NL, NO, PL, PT, ES, SE, CH, and UK) of which 13 are EU Member States. FTSE also combines LU with BE, so the actual coverage is 14 Member States. August 2004 prices were set to 100.
Source: Authors' calculations based on FTSE data.

3. The development of the EU's capital markets

Since the 1970s, Europe's credit and stock markets have expanded in size, both in absolute and relative terms. Up until the early 1990s the European credit market grew steadily, then entered a decade of stagnation, recovered and reached an all-time high of about 105 % of GDP, before declining after 2009 close to today's level of 88 % of EU27 GDP (see *Figure 2* left-hand panel). Stock market development has been more volatile, due to the bursting of the dot-com bubble, the Global Financial Crisis, and, to a lesser extent, the European sovereign debt crisis. Since then, it has gained momentum and at the end of 2021 accounted for 81 % of Europe's GDP. On the other hand, bond markets – expressed as the sum of government and corporate debt securities, as well as securitisations – have remained relatively stable at about 90 % of GDP.

Figure 2. Structure of the financial sector in the EU27 and the US (% of GDP, 2001-2021)

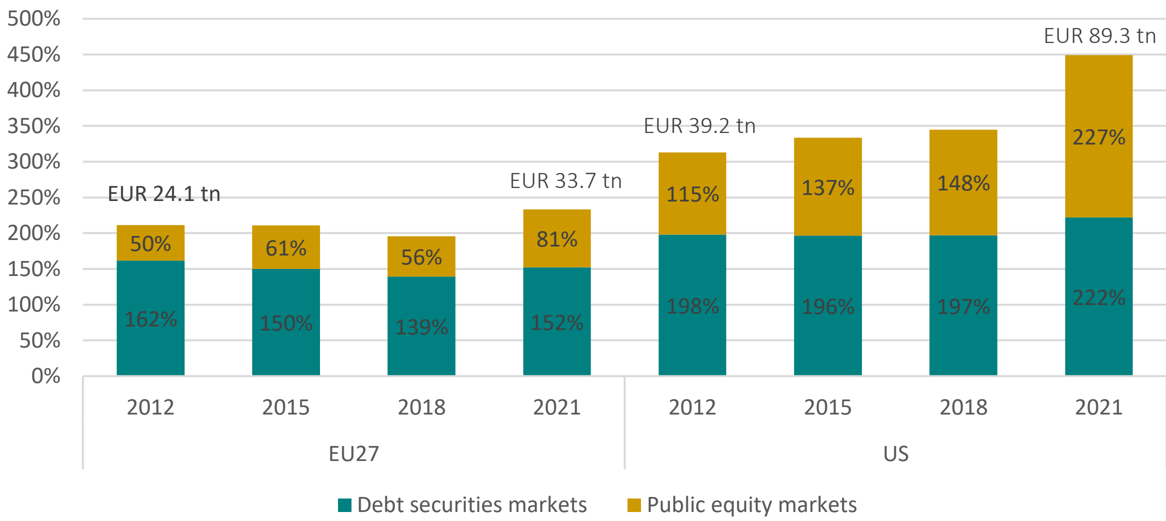


Notes: Bank credit refers to the financial resources provided to the private sector by domestic money banks as a share of GDP. Domestic money banks comprise commercial banks and other financial institutions that accept transferable deposits, such as demand deposits. Equity market captures the total value of all listed shares in a stock market as a percentage of GDP. Market capitalisation as at December of each year. Bond market refers to the sum of outstanding amounts of corporate and government debt securities, as well as securitisation (European data on securitisation are available from 2007 onwards). End-of-year exchange rates used for conversions. For EU27 the following stock exchanges have been included: AT (Wiener Börse – Vienna), BE (Euronext Brussels), BG (Bulgarian Stock Exchange), CY (Cyprus Stock Exchange), CZ (Wiener Börse – Prague), DE (Deutsche Börse AG), DK (Nasdaq Copenhagen), EE (Nasdaq Tallinn), EL (Athens Stock Exchange), ES (BME), FI (Nasdaq Helsinki), FR (Euronext Paris), HR (Zagreb Stock Exchange), HU (Budapest Stock Exchange), IE (Euronext Dublin), IT (Borsa Italiana), LT (Nasdaq Vilnius), LU (Luxembourg Stock Exchange), LV (Nasdaq Riga), MT (Malta Stock Exchange), NL (Euronext Amsterdam), PL (Warsaw Stock Exchange), PT (Euronext Lisbon), RO (Bucharest Stock Exchange), SE (Nasdaq Stockholm), SI (Ljubljana Stock Exchange), SK (Bratislava Stock Exchange). For the US, the Nasdaq and the New York Stock Exchange (NYSE) have been considered.
Sources: Authors' calculations based on data from the Association for Financial Markets in Europe (AFME), the Federation of European Securities Exchanges (FESE), the World Federation of Exchanges (WFE), the Global Financial Development Database (GFDD), individual exchanges, and Eurostat.

In comparison with the US, where bank credit markets represent only 54 % of GDP, Europe's financial system is considerably more bank-based (see *Figure 2*, right-hand panel). A symmetric pattern is obtained for bond markets, which are, in the US, twice the size of the European bond market. Moreover, with regards to stock markets, the US is three and a half times the size of the European market (EUR 41 trillion versus EUR 12 trillion) and almost three times as deep relative to GDP (227 % versus 81 %)[11].

Focusing on public markets (i.e., debt securities and publicly-listed equity), Europe's capital markets are in aggregate smaller than those in the US as a percentage of GDP (see *Figure 3*). More importantly, the gap with the US, instead of decreasing over the years, has increased. At the end of 2021, European capital markets – measured as the sum of debt securities and public equity markets – represented 233 % of European GDP (212 % in 2015) compared to 449 % of GDP in the US (313 % in 2015). Nevertheless, an important difference between the two markets is the fact that in Europe debt securities account for about two thirds of the capital markets, while the US market is balanced between debt and equity.

Figure 3. Structure of capital markets in the EU27 and the US (% of GDP)

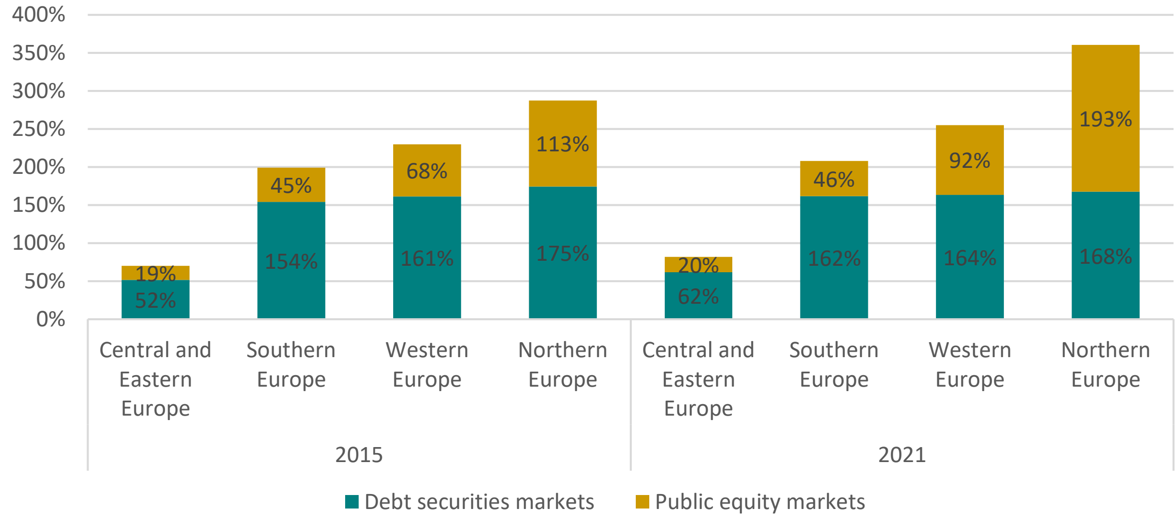


Notes: Debt securities markets refer to the outstanding amounts of government, financial institutions and corporate debt securities. Public equity markets are captured by domestic market capitalisation.
Sources: Authors' calculations based on data from BIS, ECB, Eurostat, FESE, FRED, WFE, and individual exchanges.

On a regional level, in three out of the four regions (i.e., Central and Eastern Europe, Southern Europe, and Western Europe), the share of debt markets as percent of GDP increased from 2015 to 2021, and is approximately two to three and a half times larger than the share of equity markets (see Figure 4). Conversely, in Northern Europe – consisting of the three Nordic countries: Denmark, Finland, and Sweden – the size of debt markets declined and equity markets are now bigger, playing a more relevant role vis-à-vis debt markets.

[11] It is important to highlight that in Europe there is a much larger share of unlisted equity (i.e. private equity and family-owned businesses) compared to the US.

Figure 4. Structure of capital markets across European regions (% of GDP)



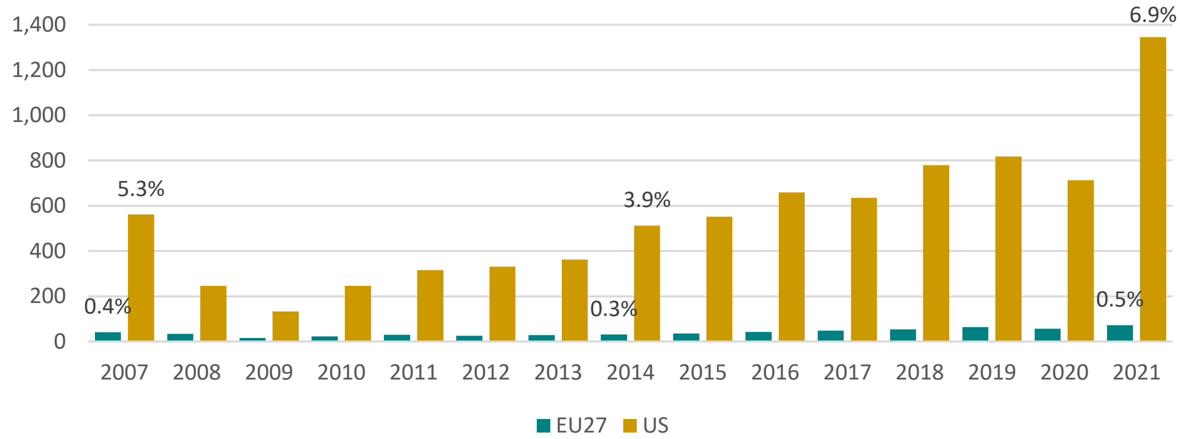
Notes: Debt securities markets refer to the outstanding amounts of government, financial institutions and corporate debt securities. Public equity markets are captures by domestic market capitalisation. Central and Eastern Europe includes: BG, CZ, EE, HR, HU, LT, LV, PL, RO, SI, and SK. Southern Europe includes: CY, EL, ES, IT, MT, and PT. Western Europe includes: AU, BE, DE, FR, IE, LU, and NL. Northern Europe includes: DK, FI, and SE.
Sources: Authors' calculations based on data from ECB, Eurostat, FESE, and individual exchanges.

3.1. Pre-IPO risk capital markets

Developing strong capital markets in Europe that would foster equity financing and offer access to alternative funding sources could help to overcome funding constraints stemming from over-reliance on banking. This is particularly relevant for young, small, fast-growing, and innovative companies given that these firms tend to depend more on intangible assets that are difficult to value and have greater difficulty accessing capital markets than larger firms. Pre-initial public offering (IPO) risk capital – such as equity crowdfunding, business angels, venture capital (VC), or private equity (PE) – not only supplements traditional forms of financing but can also act as a 'bridge' toward listing on regulated markets.

The amount of pre-IPO risk capital invested in the EU has increased over the past few years at an average annual growth rate of 8 % and reached EUR 72 billion at the end of 2021. Despite this positive development, it represents only 0.5 % of European GDP (see *Figure 5*). By comparison, the US pre-IPO market has grown at an annual average rate of 14 % and totalled EUR 1.3 trillion in 2021 while, relative to the size of the US economy, it stands at 6.9 % of GDP.

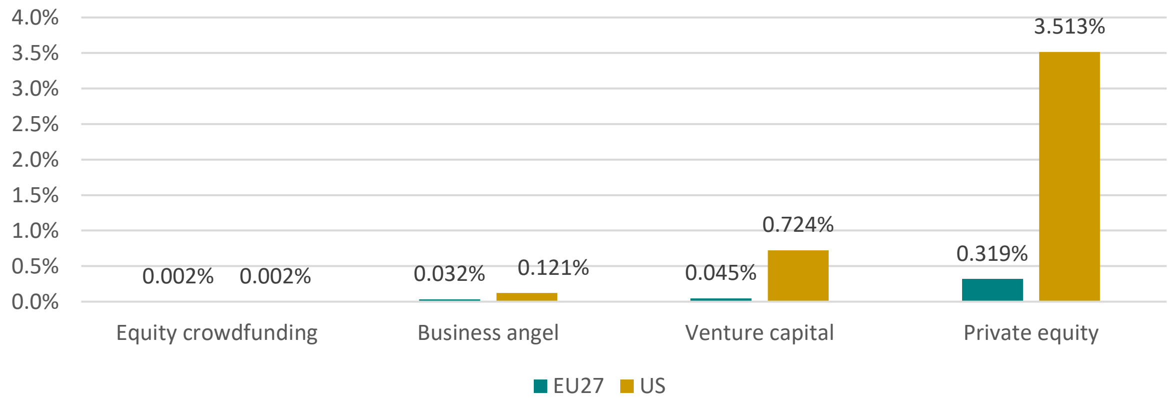
Figure 5. Pre-IPO risk capital investment in the EU27 and the US (EUR billion and % of GDP, 2007-2021)



Notes: Total pre-IPO risk capital refers to the sum of equity crowdfunding, business angel, VC, and PE investments. Data on equity crowdfunding are available from 2014 and 2020 for both the EU27 and the US. Data on European business angel are available from 2011 to 2020. Data on European VC and PE investments refer to industry statistics (i.e., location of PE/VC firm). European VC stages include: seed, start-up, and later stage venture. European PE stages include: growth capital, turnaround/rescue, replacement capital, and buyout. US VC stages include: angel&seed, early VC, and later VC. US PE stages include: PE growth/expansion, add-on, and buyout/leveraged buyout. Amounts invested by European and US VC companies are not directly comparable. This is because the PitchBook reports data that capture the entire investment round of VC-backed companies. In many cases, this may include other types of investors (other than formal PE/VC funds) that participate in such rounds. Contrary to that, Invest Europe reports data that are focused on formal PE/VC funds and their equity investments. Data for VC and PE for EU27 do not include Cyprus and Malta.
Sources: Authors' calculations based on data from the Cambridge Centre for Alternative Finance, Center for Venture Research, EBAN, Eurostat, FRED, Invest Europe, and PitchBook.

Zooming into the different stages of the funding escalator (see *Figure 6*), it is evident that the two markets are of comparable size with regards to equity crowdfunding, and to a lesser extent business angels. But, the gap increases significantly as we move along the funding escalator. Although, since 2015, investment made by European VC funds grew at a yearly average rate (23 %) that is comparable to that in the US (32 %), the total invested amount in Europe at the end of 2021 (EUR 11 billion or 0.07 % of GDP) represented just 4 % of that invested by US VC funds (EUR 302 billion or 1.6 % of GDP).

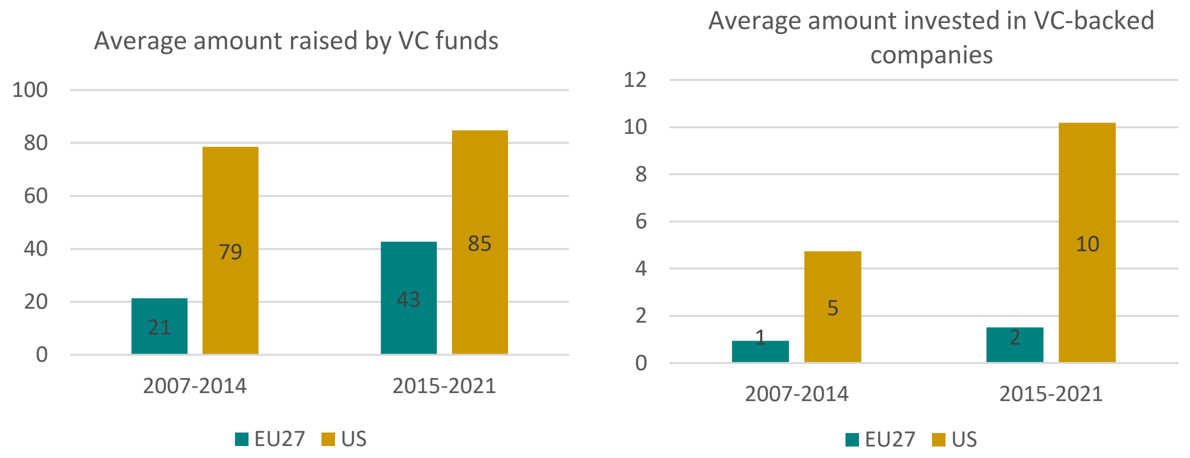
Figure 6. Pre-IPO risk capital investment in the EU27 and the US across asset class (% of GDP, average 2015-2021)



Note: Same as in the first figure of this section.
Sources: Authors' calculations based on data from the Cambridge Centre for Alternative Finance, Center for Venture Research, EBAN, Eurostat, FRED, Invest Europe, and PitchBook.

Taking into account the number of VC funds (275 in Europe and 858 in the US at the end of 2021), the average amount raised by European VC funds has doubled over the years, however, it is still half of that of a US fund (see *Figure 7*, left-hand panel). Europe's VC funds raised an average of EUR 43 million between 2015 and 2021, compared to EUR 85 million raised by US funds. This also has an impact on the amount invested in VC-backed companies (see *Figure 7*, right-hand panel). In Europe, the average amount received by a VC-backed company is about EUR 2 million, while a US company will get almost five times this amount.

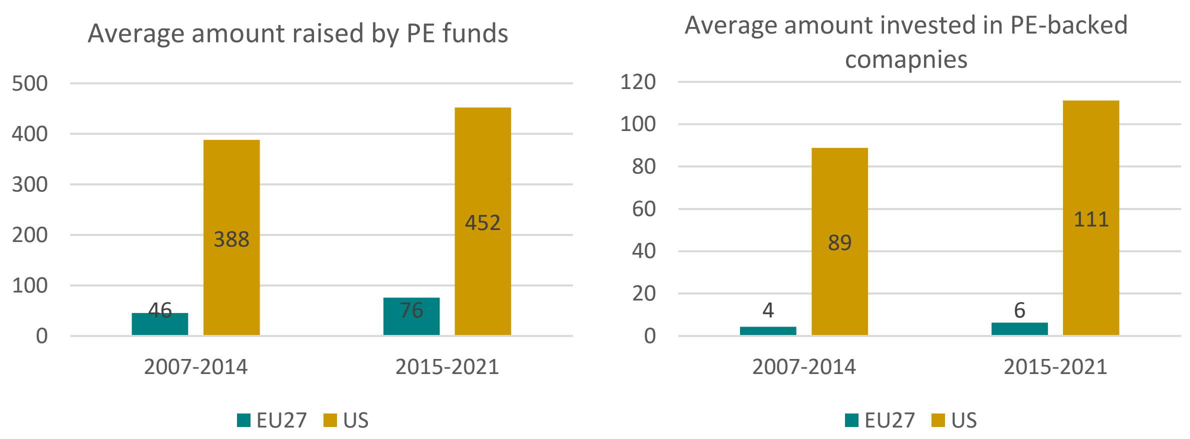
Figure 7. Average amount raised and invested by VC funds in the EU and the US (EUR million)



Notes: Data on funds raised refer to incremental amounts raised during the year. Same as in the first figure of this section.
Sources: Authors' calculations based on data from Invest Europe, PitchBook, Eurostat, and FRED.

The gap is even more glaring when considering private equity (PE). Given the high number of PE funds in Europe (670 at the end of 2021, compared to 461 in the US), the average size of a European PE fund is about six to eight times smaller than that in the US (see *Figure 8*, left-hand panel). As a result, US companies have much more PE funding available than their European counterparts (see *Figure 8*, right-hand panel). On average, US-backed PE companies receive 20 times more funding compared to their European peers.

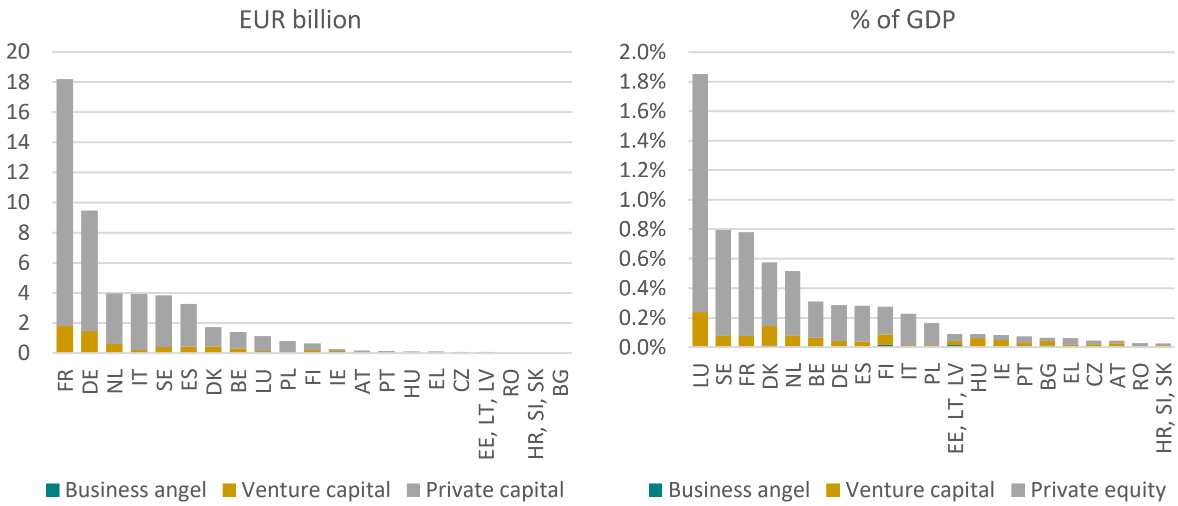
Figure 8. Average amount raised and invested by PE funds in the EU and the US (EUR million)



Notes: Data on funds raised refer to incremental amounts raised during the year. Same as in the first figure of this section.
Sources: Authors' calculations based on data from Invest Europe, PitchBook, Eurostat, and FRED.

Across the Member States, the pre-IPO risk capital market appears to be highly fragmented, both in absolute and relative terms (see *Figure 9*). To start with, the vast majority (87 %) of the capital invested is by PE funds, followed by VC funds (12 %) and business angels (1 %). Furthermore, 86 % of the EU's pre-IPO risk capital investment is concentrated in just six Member States (FR, DE, NL, IT, SE, and ES), with the majority of European countries struggling to develop their local markets (see *Figure 9*, left-hand panel). This is also confirmed when looking at the size of the funding escalator relative to national GDP, where the most active investors are French, Benelux, and Nordic investors (see *Figure 9*, right-hand panel).

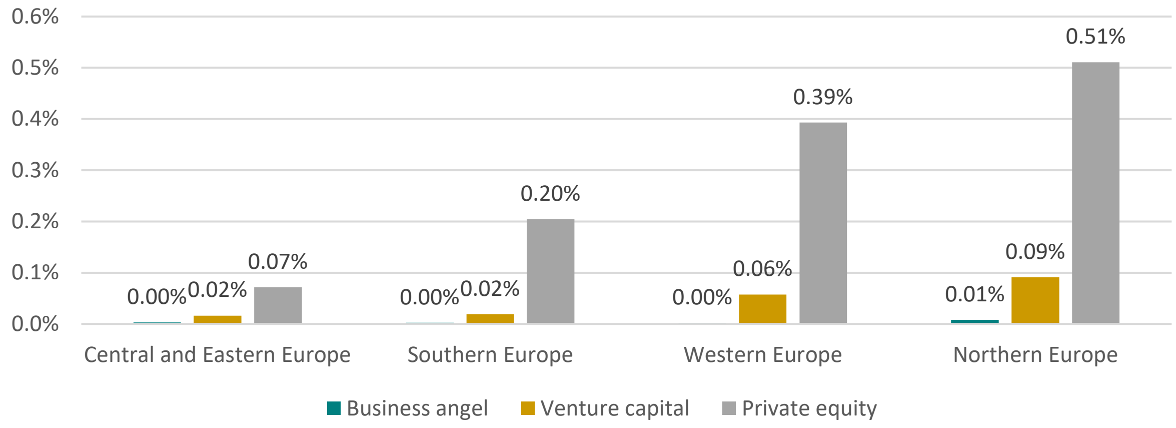
Figure 9. Pre-IPO risk capital investment across Member States (EUR billion and % of GDP, average 2015-2021)



Notes: Data for business angel are not yet available for 2021. Equity crowdfunding has not been included, as data is not available at Member State level. Cyprus and Malta are not included in VC and PE due to the lack of available data. Same as in the first figure of this section.
Sources: Authors' calculations based on data from EBAN and Invest Europe.

Another way to illustrate the fragmented nature of the market is by comparing across regions (see *Figure 10*). Pre-IPO risk capital investments as a share of GDP in the three Nordic countries (DK, FI, and SE), rank well above that of the three other European regions. Over the period 2015-2021, the yearly average business angel, VC, and PE investments represent about 0.61 % of GDP in the Nordic region, versus 0.45 % in Western Europe, 0.23 % in Southern Europe, and 0.09 % in Central and Eastern Europe.

Figure 10. Pre-IPO risk capital investment across asset classes and European regions (% of GDP, average 2015-2021)

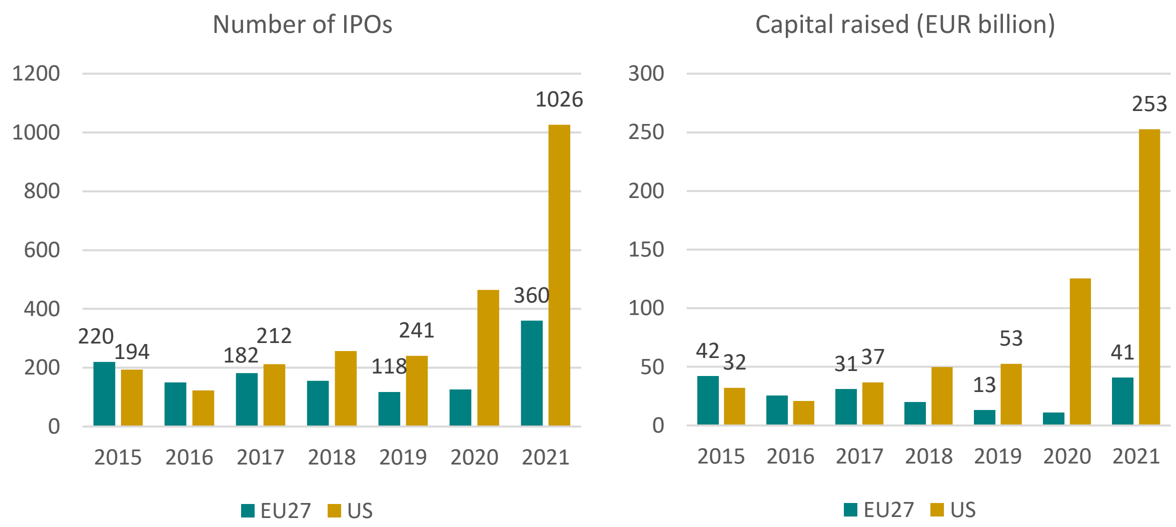


Notes: Data for business angel are not yet available for 2021. Equity crowdfunding has not been included, as data is not available at Member State level. Cyprus and Malta are not included in VC and PE due to the lack of available data. Same as in the first figure of this section.
Sources: Authors' calculations based on data from EBAN and Invest Europe.

3.2. IPOs

The primary market for listed equity instruments provides a key source of long-term funding for firms. Over the past 30 years the global IPO market has gone through several cycles. The advent of the dot-com era created a path for many companies to go public whereby the IPO activity accelerated up to the beginning of 2000s. Since then, the number of IPOs fluctuated downwards and reached its lowest point in 2008 when the global financial crisis put the brakes on the market. From then onwards, activity has slightly rebounded. But it was only 2021 that marked a record-breaking year for IPO markets globally (see *Figure 11*, left-hand panel).

Figure 11. Number of IPOs and capital raised (EUR billion) in the EU27 and the US (2015-2021)



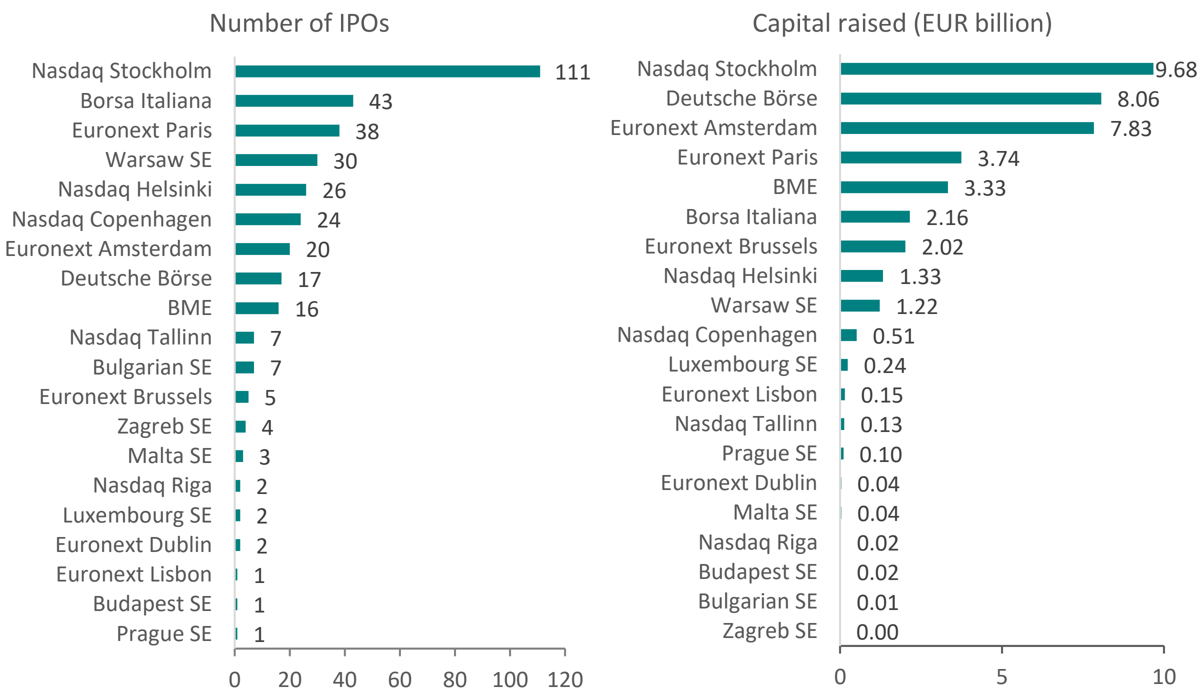
Notes: Figures refer to both main and junior markets (wherever available). Main markets are where medium and large IPOs (by proceeds) are usually listed and traded, while junior markets are where small-cap companies or smaller IPOs are listed or traded. For EU27 the following 26 stock exchanges have been included (except Slovakia and Bratislava SE)): AT (Wiener Börse – Vienna), BE (Euronext Brussels), BG (Bulgarian Stock Exchange), CY (Cyprus Stock Exchange), CZ (Wiener Börse – Prague), DE (Deutsche Börse AG), DK (Nasdaq Copenhagen), EE (Nasdaq Tallinn), EL (Athens Stock Exchange), ES (BME), FI (Nasdaq Helsinki),

FR (Euronext Paris), HR (Zagreb Stock Exchange), HU (Budapest Stock Exchange), IE (Euronext Dublin), IT (Borsa Italiana), LT (Nasdaq Vilnius), LU (Luxembourg Stock Exchange), LV (Nasdaq Riga), MT (Malta Stock Exchange), NL (Euronext Amsterdam), PL (Warsaw Stock Exchange), PT (Euronext Lisbon), RO (Bucharest Stock Exchange), SE (Nasdaq Stockholm), SI (Ljubljana Stock Exchange). For the US, the Nasdaq and the New York Stock Exchange (NYSE) have been considered.
Sources: Authors' calculations based on data from FESE, WFE, individual exchanges, and Eurostat.

In Europe, the market experienced its strongest year in recent history, delivering 360 IPOs and raising about EUR 41 billion, or 0.3 % of GDP (see *Figure 11*, right-hand panel) in 2021. This represents an increase of 64 % in the number of IPOs, but a marginal decline of 3 % in the amount of capital raised, compared to 2015. In the US, more than one thousand companies IPO'd in 2021, raising EUR 253 billion (representing 1.3 % of GDP).

Across Europe, the market is concentrated in a few Member States (see *Figure 12*). In terms of numbers of IPOs, Sweden, which is consistently the top venue, hosted 111 IPOs in 2021, followed by Italy (43) and France (38). Sweden also dominates the market in terms of investment flows, with Swedish IPOs raising EUR 9.7 billion, compared to EUR 8.1 billion in Germany, and EUR 7.8 billion in the Netherlands. In fact, these three countries account for 63 % of the total capital raised by European IPOs in 2021.

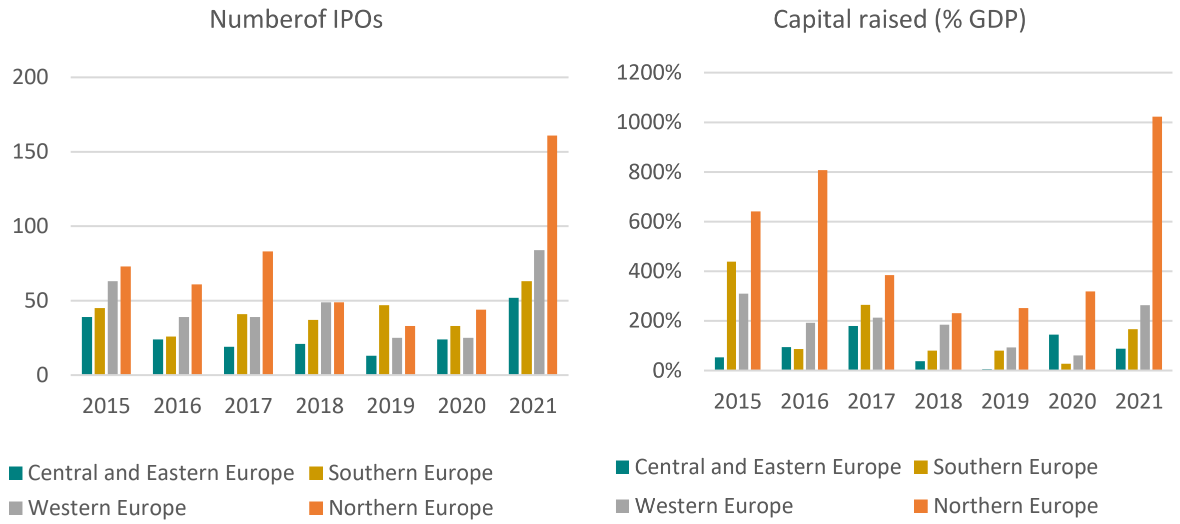
Figure 12. Number of IPOs and capital raised across Member States (EUR billion, 2021)



Notes: Same as in the first figure of this section.
Sources: Authors' calculations based on data from FESE, individual exchanges, and Eurostat.

Sweden's example represents a continuation of the flourishing IPO market seen in the Nordic region for several years now (see *Figure 13*). Although the Nordic countries account for a rather small share of population and GDP, they represent a significant share of Europe's IPOs. On average, the Nordics are delivering 37 % of all European IPOs, and raising 21 % of the capital raised by all IPOs in Europe. This is due to a strong start-up community, supportive regulation, a healthy domestic institutional investment industry, and retail investors willing to participate in capital markets.

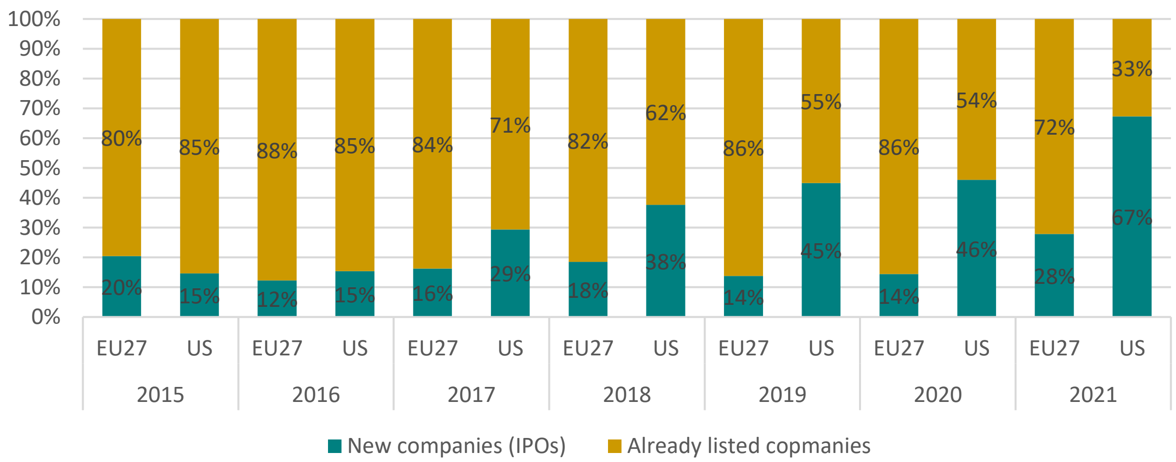
Figure 13. Number of IPOs and capital raised across European regions (2015-2021)



Notes: Same as in the first figure of this section.
Sources: Authors' calculations based on data from FESE, individual exchanges, and Eurostat.

The composition of newly raised equity reveals that the majority of inflows goes into already listed companies (see *Figure 14*). On average, only 18 % of the total investment flows in EU27 are channeled to newly listed companies. This is half the size of the investment that US newly listed companies receive.

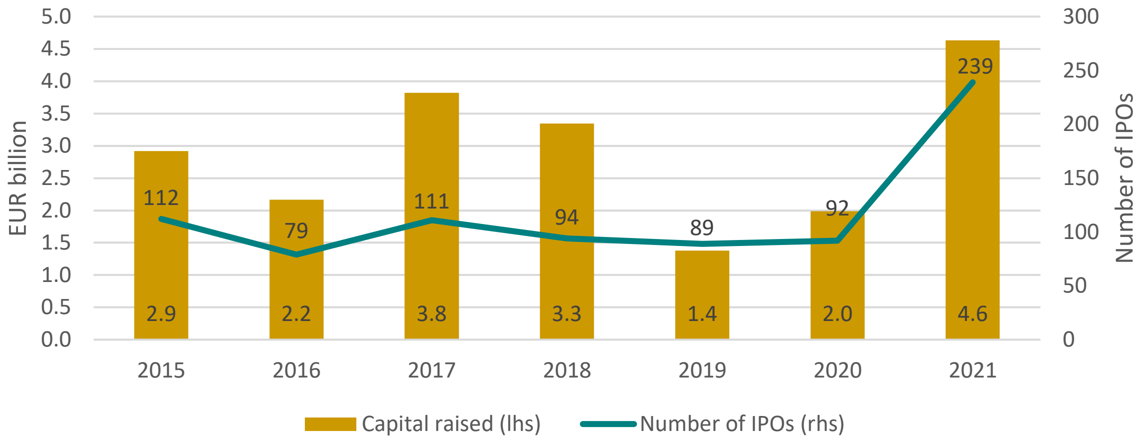
Figure 14. Share of equity flow into newly (through IPO) and already listed companies (2015-2021)



Notes: Same as in the first figure of this section.
Sources: Authors' calculations based on data from FESE, WFE, individual exchanges, and Eurostat.

Focusing on SMEs, equity financing offers an important alternative to raise capital, given that these firms often tend to depend on more difficult-to-value intangible assets. The development of small IPO market segments could stimulate investment in SMEs and (alongside securitisation and other non-bank debt financing instruments) improve the allocation of risk and risk taking, thus supporting growth. Over the last few years, the number of IPOs in SME-dedicated markets – the so-called junior markets characterised by simplified listing processes and customised information standards compared to the rules for the main markets – is higher than those in main markets. At the end of 2021, IPOs proceeds on EU-27 junior markets stood at around EUR 4.6 billion (up by 59 % compared to 2015), while the number of IPOs more than doubled to 239 (see *Figure 15*).

Figure 15. IPO activity in junior markets (EUR billion, 2015-2021)

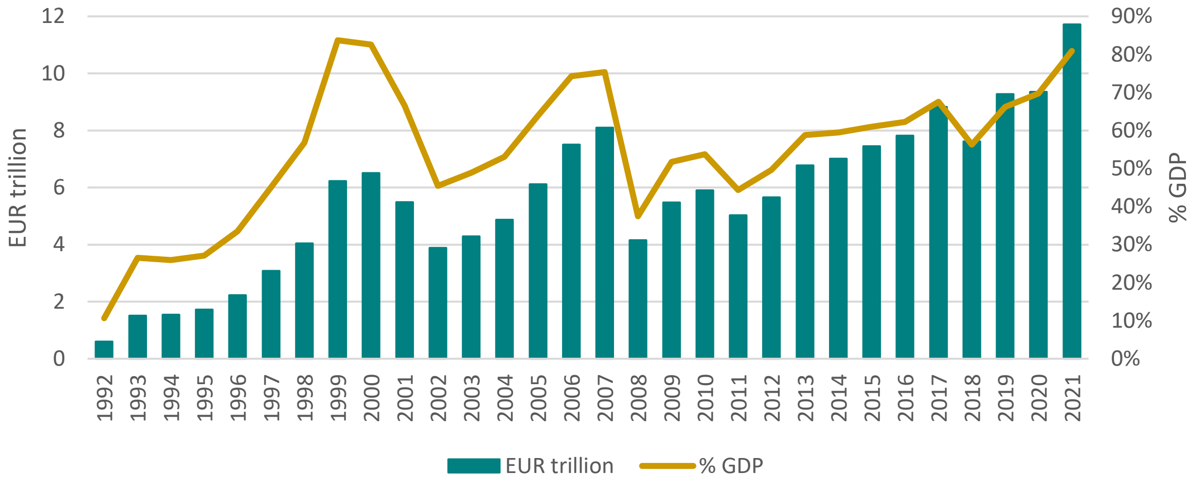


Notes: The junior markets (multilateral trading facilities) included are: Euronext Growth (Amsterdam, Brussels, Dublin, Lisbon, Milan, and Paris), Nasdaq First North Growth Market (Copenhagen, Helsinki, Riga, Stockholm, Tallin, Vilnius), Deutsche Börse Scale, Warsaw NewConnect, Bolsas y Mercados Españoles (BME) Growth Market, MTF Bulgarian Stock Exchange (BSE) International, Emerging Companies Market (ECM) of the Cyprus Stock Exchange, Euro MTF of the Luxembourg Stock Exchange (LSE), START of the Prague Stock Exchange (PSE), Progress Market of the Zagreb Stock Exchange, and Xtend of the Budapest Stock Exchange (BSE).
Sources: Authors' calculations based on data from FESE, WFE, individual exchanges, and Eurostat.

3.3. Listed equity markets

Moving to secondary markets, European equities grew significantly over the last thirty years. Their development has been steady but affected by the economic and financial crises that took place during that period (see *Figure 16*). As of 2015, domestic market capitalisation of European listed shares increased by 57 % (from about EUR 7 trillion to EUR 12 trillion) or by 20 percentage points in terms of GDP (from 61 % to 81 %).

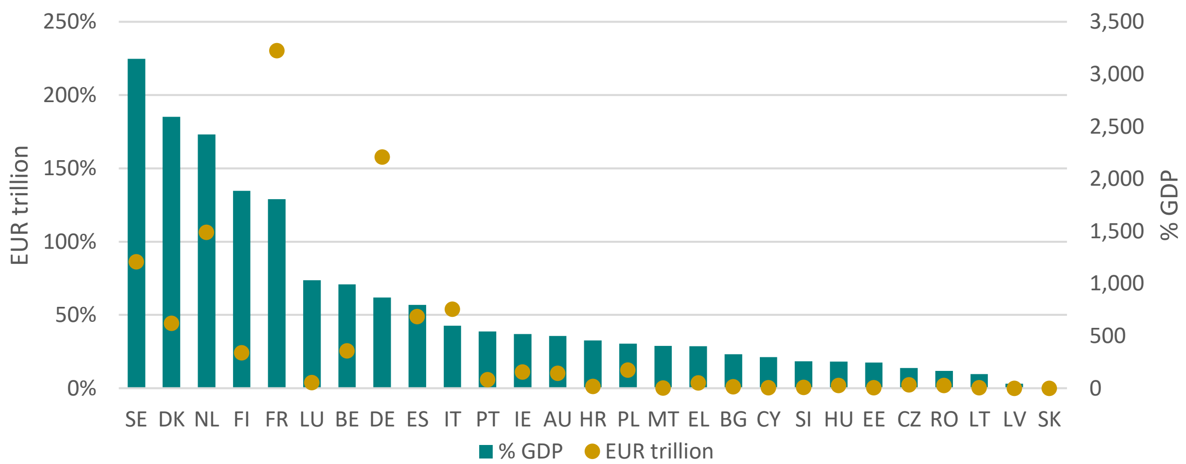
Figure 16. European stock market capitalisation (EUR trillion and % of GDP, 1992-2021)



Notes: Market capitalisation as at December of each year. End-of-year exchange rates used for conversions. The European exchanges used are those that appear at the note of Figure 1.
Sources: Authors' calculations based on data from the ECMI Statistical Package, FESE, individual exchanges, and Eurostat.

Looking at Member State level, significant discrepancies exist that indicate regional divergence. In absolute terms, four exchanges – Euronext Paris, Deutsche Borse, Euronext Amsterdam, and Nasdaq Stockholm – have a combined capitalisation of EUR 8 trillion, representing 69 % of the total EU27 (see *Figure 17*). However, relative to the size of each economy, the picture is different. Among the European stock exchanges, market capitalisation ranges from 0.2 % of GDP in Slovakia to 225 % of GDP in Sweden. In particular, the three Nordic Member States together with France and the Netherlands have markedly higher market capitalisations than the EU average. On the other hand, other large European economies such as Germany, Italy and Spain are below the European average.

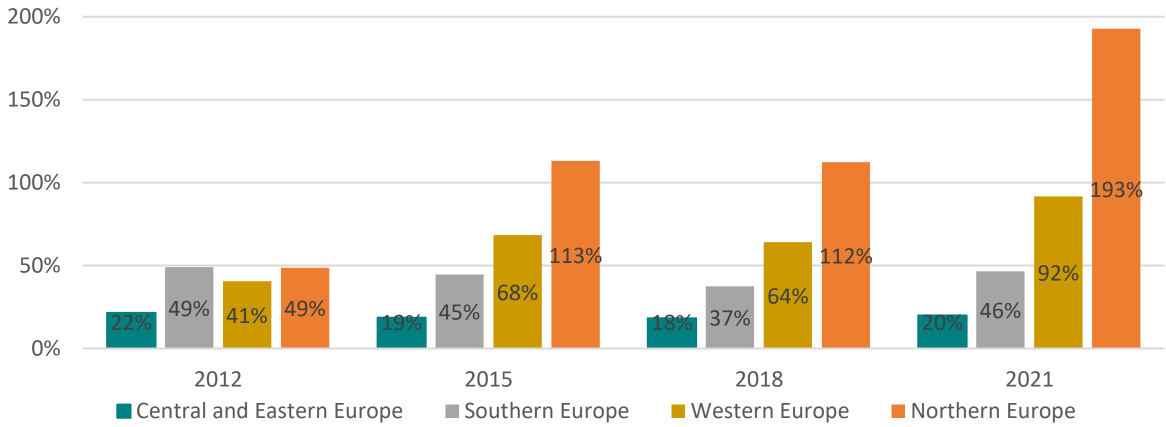
Figure 17. Market capitalisation across Member States (EUR trillion and % of GDP, end-2021)



Notes: Market capitalisation as at December of each year. End-of-year exchange rates used for conversions. The European exchanges used are those that appear at the note of Figure 1.
Sources: Authors' calculations based on data from the ECMI Statistical Package, FESE, individual exchanges, and Eurostat.

The different levels of development of European equity markets are also evident when looking across regions (see *Figure 18*). Nordic countries such as Finland, Denmark, and Sweden are considered to have fast-growing and more advanced stock markets. The combined capitalisation of the three exchanges in Helsinki, Copenhagen, and Stockholm as a share of GDP increased fourfold since 2012. At the same time, stock market capitalisation in Western Europe has doubled, while it remained stable in Central and Eastern Europe, and in Southern Europe.

Figure 18. Market capitalisation across European regions (% of GDP)

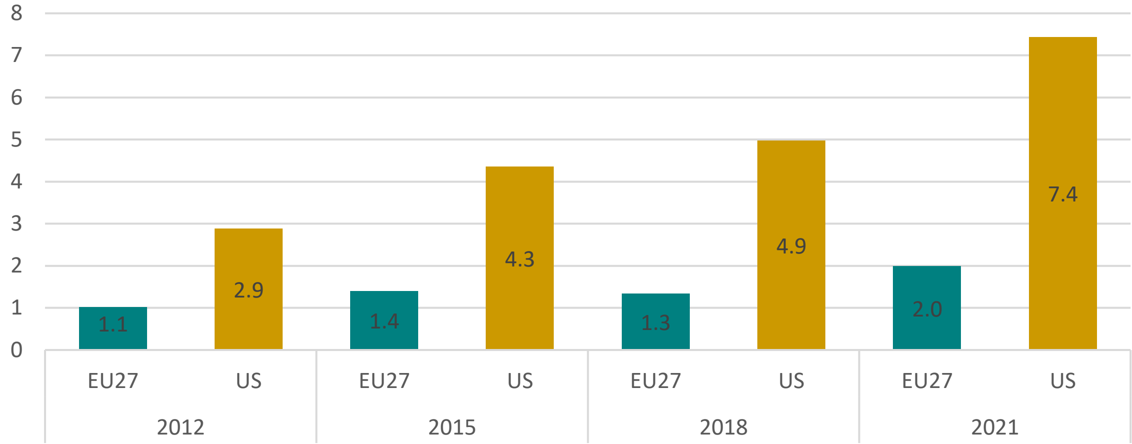


Notes: Market capitalisation as at December of each year. End-of-year exchange rates used for conversions. The European exchanges used are those that appear at the note of Figure 1. Central and Eastern Europe includes: BG, CZ, EE, HR, HU, LT, LV, PL, RO, SI, and SK. Southern Europe includes: CY, EL, ES, IT, MT, and PT. Western Europe includes: AU, BE, DE, FR, IE, LU, and NL. Northern Europe includes: DK, FI, and SE.
Sources: Authors' calculations based on data from the ECMI Statistical Package, FESE, individual exchanges, and Eurostat.

Looking at the number of listed companies, and despite a marked decline observed globally over the last 25-30 years, their number gradually increased in Europe and almost doubled from 3 237 companies in 1993 to an all-time-high of 5 902 companies in 2021. Over the same period, the number of US listed companies dropped by 17 % to 6 203 at the end of 2021. On average, the market capitalisation of a company listed in the US is three to four times larger than a company listed in Europe (see *Figure 19*)[12].

[12] Taking into account the difference in the size of the two markets, the average capitalisation of a European listed company represents 11 % of the EU GDP, compared to 29 % of the US GDP for an US company.

Figure 19. Average capitalisation of a listed company in the EU27 and the US (EUR billion)



Notes: Market capitalisation as at December of each year. End-of-year exchange rates used for conversions.
Sources: Authors' calculations based on data from the ECMI Statistical Package, FESE, WFE, individual exchanges, and Eurostat.

This is also reflected in the list of global top 100 companies in terms of market capitalisation (see *Table 1*). From 2015, when 16 EU27 companies were part of the list, the number has dropped by half in 2022. By market cap, EU27 companies accounted for 11 % of the total capitalisation in 2015, dropping to 5 % in 2022. On the other hand, the US still has the largest listed companies in terms of market capitalisation in the world, as 63 of the top 100 are listed on US exchanges, representing 70 % of the top 100 market cap.

Table 1. Location of Global Top 100 companies by market capitalisation (EUR billion)

Location	2022 market capitalisation (EUR billion)	2015 market capitalisation (EUR billion)	# of companies 2022	# of companies 2015
United States	22 140 (70 %)	8 664 (57 %)	63	53
China and its regions	2 889 (9 %)	2 194 (15 %)	13	12
France	658	410	3	4
Ireland	336	103	2	1
Netherlands	248	116	1	1
Denmark	175	132	1	1
Germany	123	581	1	6
Spain	0	191	0	2
Belgium	0	182	0	1
EU27	1 597 (5 %)	1 716 (11 %)	8	16
Switzerland	817 (3 %)	695 (5%)	3	3
UK	646 (2 %)	875 (6 %)	4	8
Rest of the world	3 592 (11 %)	955 (6 %)	9	8
Total	*31 682*	*15 099*	*100*	*100*

Notes: Market capitalisation of the top 100 companies as at 31 March 2022 and 31 March 2015. The numbers within brackets at columns two and three show the share of the respective location in terms of total market capitalisation. China and its regions includes: Mainland China, Hong Kong Special administrative region (SAR), and Taiwan. Rest of the world in 2015 includes: Austria, Brazil, Canada, Japan, and South Korea. Rest of the world in 2022 includes: Austria, Canada, India, Japan, Saudi Arabia, and South Korea.
Sources: Authors' calculations based on data from PwC (2015 and 2022) and Eurostat.

Across the 27 Member States, there are 27 different national stock exchanges (excluding smaller regional or specialised exchanges such as those in Germany and Spain). For comparison, in the US there are only two major exchanges (i.e., Nasdaq and NYSE). Only one EU-27 exchange, Euronext Paris, is on the list of the top 10 exchanges in terms of market capitalisation, while three others (Deutsche Börse, Euronext Amsterdam, and Nasdaq Stockholm) are in the top 20 (see *Table 2*).

Table 2. Top 10 stock exchanges in market capitalisation (EUR billion, end-2021)

	Stock exchange	Market capitalisation (EUR billion)
1	NYSE (US)	24 445
2	Nasdaq (US)	21 682
3	Shanghai Stock Exchange (CN)	7 200
4	Tokyo Stock Exchange (JP)	5 778
5	Shenzhen Stock Exchange (CN)	5 492
6	Hong Kong Exchanges and Clearing	4 798
7	London Stock Exchange (UK)	3 355
8	Euronext Paris (FR)	3 225
9	National Stock Exchange of India (IN)	3 133
10	Toronto Stock Exchange (CA)	2 882
⋮	⋮	⋮
12	Deutsche Börse (DE)	2 210
13	SIX Swiss Exchange (CH)[1]	2 055
17	Euronext Amsterdam (NL)	1 490
18	Nasdaq Stockholm (SE)	1 211

Notes: Market capitalisation as at end-December 2021. End-of-year exchange rate used for conversion.[1] Date for the SIX Swiss Exchange refer to Switzerland, and do not include the in 2020 acquired Spanish BME.
Sources: Authors' calculations based on data from the FESE, the WFE, individual exchanges, and Eurostat.

The 27 European exchanges are organised into 15 exchange groups (see *Table 3*). This consolidation has primarily been driven by Euronext and Nasdaq, with each one operating six exchanges across the EU (Euronext in Belgium, France, Ireland, Italy, the Netherlands and Portugal, and Norway in the EEA; and Nasdaq in Denmark, Estonia, Finland, Latvia, Lithuania, and Sweden). However, although the exchange operating companies have merged, the actual markets in which they operate have not. In other words, consolidation has only partially drilled down to the market level, whereas, to create a genuine European single market, more needs to be done. There is still much scope for further market consolidation, given that 15 different entities run the 27 EU markets.

Table 3. List of stock exchanges and exchange groups across the EU (as of end- 2021)

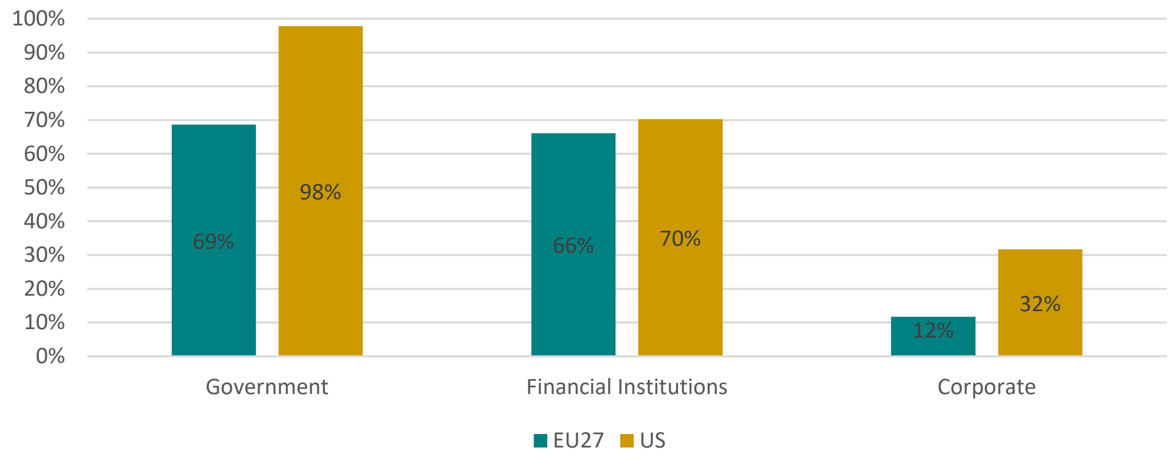
Country	Stock exchange	Exchange group
AT – Austria	Vienna Stock Exchange	Wiener Börse
CZ – Czech Republic	Prague Stock Exchange	
BE – Belgium	Euronext Brussels	Euronext
FR – France	Euronext Paris	
IR – Ireland	Euronext Dublin	
IT – Italy	Borsa Italiana	
NL – Netherlands	Euronext Amsterdam	
PT – Portugal	Euronext Lisbon	
BG – Bulgaria	Bulgarian Stock Exchange	Bulgarian Stock Exchange
CY – Cyprus	Cyprus Stock Exchange	Cyprus Stock Exchange
DE – Germany	Deutsche Börse	Deutsche Börse
DK – Denmark	Nasdaq Copenhagen	Nasdaq
EE – Estonia	Nasdaq Tallinn	
FI – Finland	Nasdaq Helsinki	
LT – Lithuania	Nasdaq Vilnius	
LV – Latvia	Nasdaq Riga	
SE – Sweden	Nasdaq Stockholm	
EL – Greece	Athens Stock Exchange	Athens Stock Exchange
ES – Spain	BME	SIX Group
HR – Croatia	Zagreb Stock Exchange	Zagreb Stock Exchange
SI – Slovenia	Ljubljana Stock Exchange	
HU – Hungary	Budapest Stock Exchange	Budapest Stock Exchange
LU – Luxembourg	Luxembourg Stock Exchange	Luxembourg Stock Exchange
MT – Malta	Malta Stock Exchange	Malta Stock Exchange
PL – Poland	Warsaw Stock Exchange	Warsaw Stock Exchange
RO – Romania	Bucharest Stock Exchange	Bucharest Stock Exchange
SK – Slovakia	Bratislava Stock Exchange	Bratislava Stock Exchange

Source: Authors' elaboration.

3.4. Listed debt markets

With regards to debt securities, the European sector is about half the size of that in the US: in 2021 the amount outstanding of European debt securities was EUR 22 trillion compared to EUR 44 trillion in the US. Issuance of government and financial institutions drives debt markets, while the corporate bond market represents a very small fraction. This is due to the heavy reliance of European non-financial corporations (NFCs) on bank lending. As a result, European debt securities markets for corporations account for about one third of their US counterparts (see *Figure 20*).

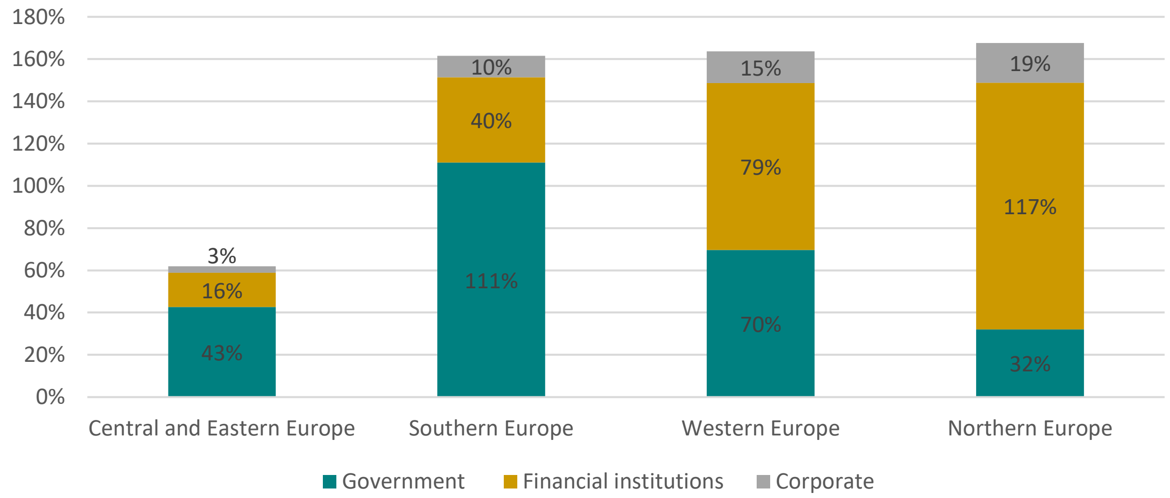
Figure 20. Outstanding debt securities in the EU27 and the US (% of GDP, average 2015-21)



Sources: Authors' calculations based on data from BIS, ECB, Eurostat, and FRED.

Regionally, three different models of European debt markets can be identified (see *Figure 21*). The first one, which includes Central and Eastern Europe and Southern Europe, is characterised by levels of government debt-to-GDP that are more than two and a half times the size of debt issued by financial institutions. In the second model, Western European debt markets exhibit an almost equal balance between financial institutions and government securities. Finally, bond markets in Northern Europe are significantly dominated by financial institutions' debt[13], while they also have the largest corporate segment compared to the other European regions (relative to GDP).

Figure 21. Outstanding debt securities across European regions (% of GDP, 2021)

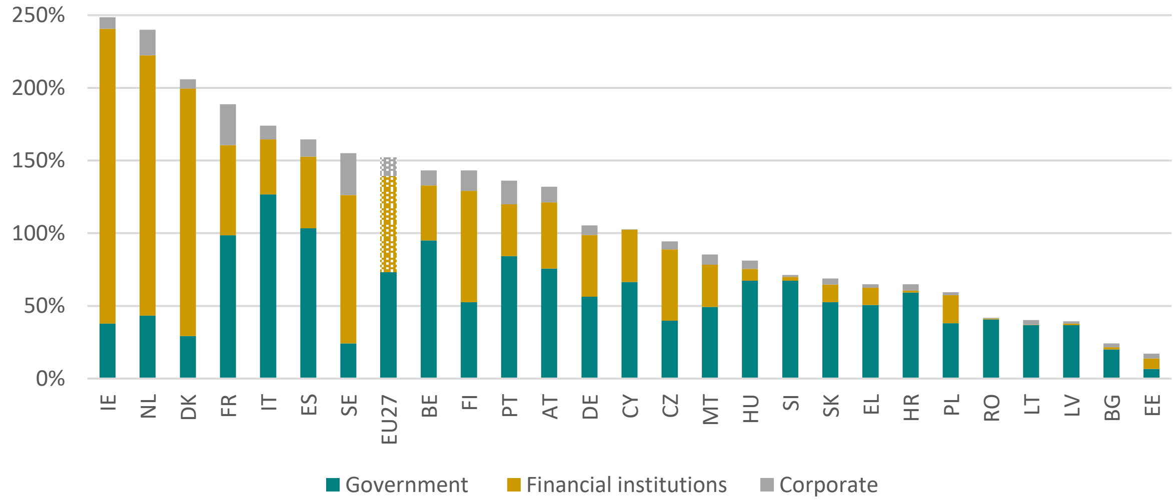


Sources: Authors' calculations based on data from ECB and Eurostat.

[13] Notably through the issuance of covered bonds.

Zooming in at national level, significant differences exist that highlight regional divergences (see *Figure 22*). Local debt securities markets range from more than two times the national GDP to less than 40 %. In countries such as the Netherlands, Denmark, Ireland, and Sweden, debt securities issued by financial institutions are four to five times more than those issued by the government, and almost three times the EU27 average (66 % of GDP). In others, including Italy, Belgium, Spain, and France, the ratio of government debt to GDP is higher that the EU-27 average (73 %). As for corporate bonds, they are more significant in Luxembourg (34 %), Sweden (29 %) and France (28 %), while they represent 5 % or less in 12 other Member States.

Figure 22. Outstanding debt securities across Member States (% of GDP, 2021)

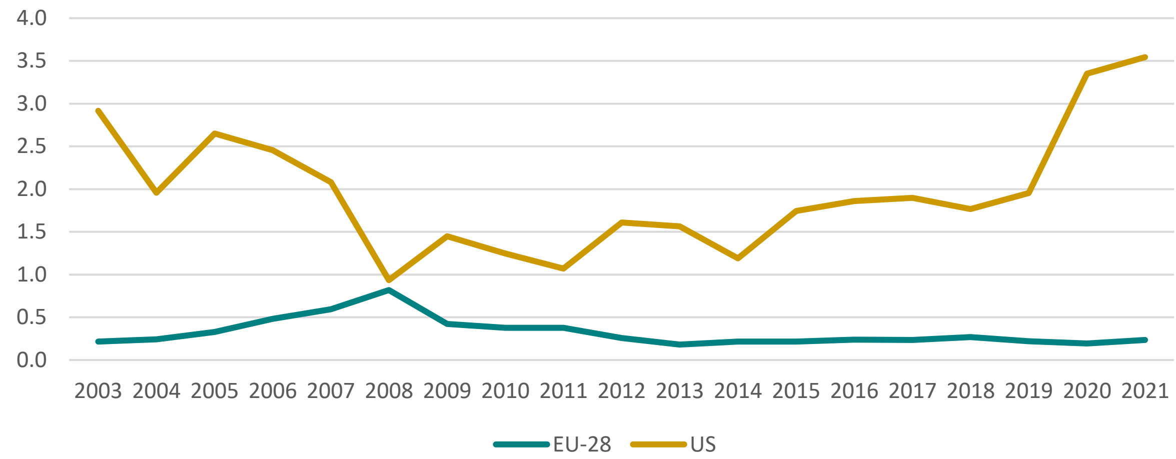


Note: Luxembourg has been excluded in order to not distort the graph (government: 19 %, financial institutions: 1 023 %, corporate: 34 %), but it has been considered at the calculation of the total EU27.
Sources: Authors' calculations based on data from ECB and Eurostat.

3.5. Securitisation

An efficient and functioning securitisation market has the ability to benefit the long-term growth and financing requirements of the EU economy. This can happen either indirectly via bank lending (with banks accessing the securitisation market for funding and/or the recycling of capital), or directly via non-bank financial intermediaries (NBFIs) and the corporate sector. In particular, the importance of securitisation in freeing up banks' capital and enabling them to renew their capacity to distribute credit has been stressed on many occasions, also in view of the crucial nature of this source of financing for most SMEs (High-Level Forum on CMU, 2020). The current economic context gives new urgency to the support of securitisation, as its role is essential in the EU's economy, including for the green transition, as targeted securitisation could broaden the range of green assets available to investors. However, and after several reforms from European regulators that were supposed to revive the securitisation market[14], it has never really recovered after its peak of EUR 819 billion in issuances in 2008 and has remained stable at minimal level in recent years (see *Figure 23*). At the end of 2021, EUR 233 billion of securitised products were issued in Europe[15].

Figure 23. Securitisation issuance in the EU27 and the US (EUR trillion, 2003-2021)



Source: Association of Financial Markets in Europe (AFME).

A comparison of securitisation issuance between the EU and the US highlights key differences between the two markets. In the US, securitisation issuance grew by 280 % between 2008 and 2018, whereas in Europe it fell by 71 %. As a result, at the end of 2018 EU issuance represented just a fraction (7 %) of US issuance. One contributing factor to this gap is the introduction of regulatory measures in Europe in the aftermath of the global financial crisis which gave rise to certain disincentives to issue and/or invest in asset-backed securities (ABS), particularly as compared to other products (Altomonte and Bussoli, 2014; EBA, 2014; Kastelein, 2018). Another reason is the presence of US Government-Sponsored Enterprises (GSEs) – such as Fannie Mae, Freddie Mac, and Ginnie Mae – as well as insurers and pension funds that are big buyers of securitised mortgages (Quaglia, 2021)[16].

[14] The EU securitisation framework, which is applicable since January 2019, consists of the Securitisation Regulation that sets out a general framework for all securitisations in the EU and a specific framework for simple, transparent, and standardised (STS) securitisations, as well as prudential requirements for securitisation positions in the Capital Requirements Regulation (CRR) and in Solvency II. The framework was complemented in April 2021 in the context of the efforts to help the post-COVID-19 economic recovery. Despite the fact that in September 2020 the Commission was intending to review the current regulatory framework in order to enhance banks' credit provision to EU companies (in particular SMEs) to scale-up the securitisation market in the EU, recently has been decided that the Securitisation Regulation will not be reopened (see the Report on the functioning of the Securitisation Regulation). Instead, it has mandated ESMA to propose Level-2 simplifications of the STS disclosure framework, which is seen by many issuers and investors as unnecessarily burdensome. The Commission has also mandated the Joint ESAs to issue proposals, and this report is expected later in 2022.

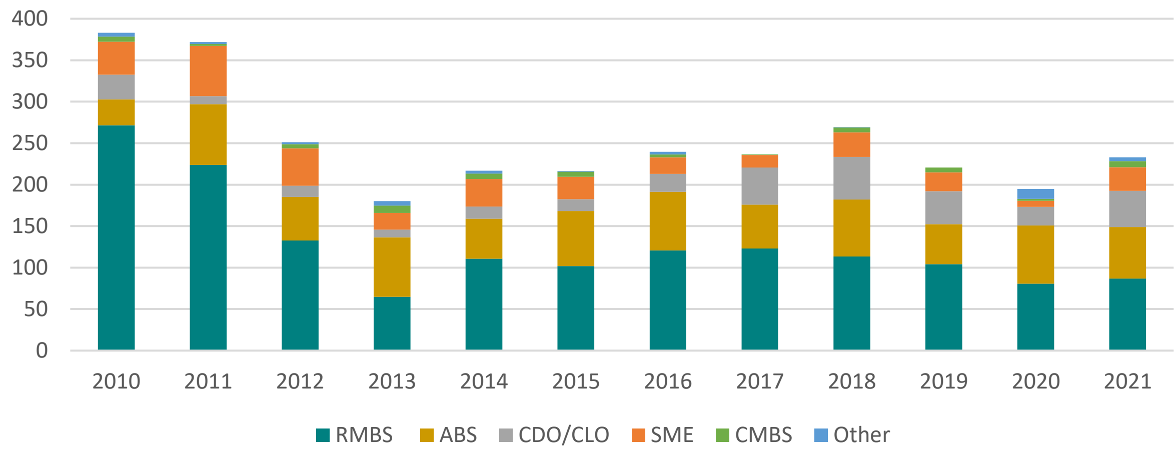
[15] In the EU, about half of the securitisation market in recent years has been 'retained' securitisation (i.e., transforming illiquid loans into securities retained by banks, and used as ECB eligible collateral).

[16] GSEs represent about 80 % of US issuance, mostly collateralised by 'prime' (i.e., high quality) mortgages. However, even excluding the GSEs, the 'private' securitisation market has more than doubled since 2012.

On the regulatory side, US regulation allows for a greater proportion of structured finance vehicles to be treated as instruments that are off banks' balance sheets. Europe, on the other hand, has developed a deep covered bonds market, which provide funding but do not transfer any risk from banks to investors. While some may consider that the efficient EU covered bonds market makes securitisation unnecessary, it is important to realise that the two instruments are complementary and must be developed in parallel as they address different goals[17].

European issuance is mainly related to the securitisation of residential mortgages (52 % on average in the period 2010-2021) and other loans (on average 35%), while the securitisation of SME loans is very limited and represents only 11 % of the total EU issuance (see *Figure 24*). Post Brexit, the biggest European markets are the Netherlands, Spain, Italy, and France, representing collectively about three quarters of the total outstanding issuance. Cross-border activity remains very limited, as pan-European issued instruments are just a fraction of the outstanding amounts (0.8 %).

Figure 24. European securitisation issuance by collateral (EUR billion, 2010-2021)



Notes: Asset-backed securities (ABS), collateralised debt obligations/collateralised loan obligations (CDO/CLO), commercial mortgage-backed securities (CMBS), residential mortgage-back securities (RMBS). The category 'Other', up until 2019 includes whole business securitisation/public finance initiatives (WBS/PFI), while as of 2020 includes corporate.
Source: AFME.

The lack of an efficient securitisation market is an obstacle for the EU to channel funding towards businesses and households who have no capacity to access the bond market. Developing a framework conducive to a significant growth in securitisation issuance is accordingly needed, given that banks will continue to be the dominant provider of debt funding

[17] Securitisation and covered bonds are security-designed instruments whereby financial assets are pooled together and converted into negotiable securities to be placed in financial markets. Although both of them use the same collateralised assets and allow banks to access low-cost capital market funding, there are differences. Perhaps the most important one, is the fact that in a traditional securitisation transaction the assets are typically transferred to a Special Purpose Vehicle (SPV) created for the sole purpose of holding those financial claims (through a true sale). On the other hand, in covered bonds, the cover-pool assets typically remain on the bank's balance sheet and investors have a priority claim against the collateral assets in case of default (Gorton and Metrick, 2013; Prokopczuk *et al*., 2013). This makes covered bonds, dual-recourse bonds, with a claim on both the bank issuer and a cover-pool of assets. As a result, covered bonds are structurally less risky for investors, which means that the risk premium of the former is lower than the cost of issuing a securitised product.

in most Member States and most market segments. Further, the EU economy's massive additional funding needs (particularly as the availability of central bank liquidity decreases) are likely to exceed banks' capacity to provide such funding given liquidity and/or capital constraints[18]. Thus, freeing up lending capacity by transferring risk to investors (that are willing to take it) through securitisation must be an essential element of the EU's funding mix over the coming decades[19]. Growth in securitisation markets would also contribute towards the development of private risk sharing across the EU and so the creation of fully integrated European capital markets (Lannoo and Thomadakis, 2019).

While many reforms have been implemented with the view of improving the trust in the EU's securitisation market (e.g., the 'STS' framework[20], extensive disclosure requirements and the strict supervision of rating agencies), many obstacles remain before the market can really take off. Enhancing equivalence and a better alignment between covered bonds and securitisation in terms of capital treatment, while recognising the different structural features, will not only increase the demand for such instruments and give investors greater protection, but also increase securitisation issuance. In order to scale up demand for securitised products, greater involvement of insurance companies is key. This means that the current revision of Solvency 2 should recognise the distortion in penalising securitisation investments. Demand-led initiatives would encourage the wider participation of investors into the market and increase liquidity, thus positively contributing to the development of the EU securitisation market.

In particular, adjusting the regulatory and supervisory treatment of securitised tranches (especially the retained ones) needs to better acknowledge the actual risk transfer achieved by the securitisation process for issuing banks, and therefore remove the current obstacles to issuance[21]. In addition, streamlining and shortening the Significant Risk Transfer (SRT) assessment process conducted by NCAs – which is complex, slow, and inconsistent (AFME, 2021) – will make it more compatible with market dynamics and so increase banks' capacity to provide new loans[22].

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[18] Notably given the further tightening of capital requirement expected in the context of CRR3/CRD6 (the Capital Requirements Directive (CRD)) under the final Basel 3 framework.

[19] Given that securitisation provides banks with an additional source of both loan financing and liquidity, it makes bank lending less sensitive to cost of funds shocks (Loutskina, 2011).

[20] Which is comprised of 103 criteria to be fulfilled before a securitisation transaction can obtain the STS label.

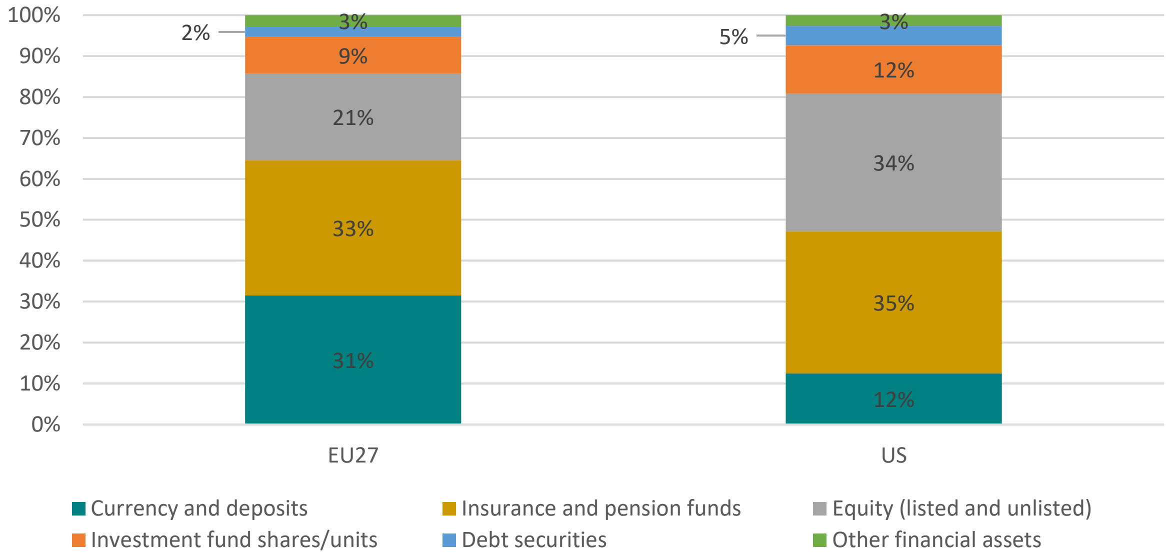
[21] If the risk transfer is proportionately recognised by a commensurate capital relief for the issuing bank, the additional cost of securitisation can be justified, from an economic value perspective, which allows the issuing bank to reinvest the released capital into new funding to the economy.

[22] SRT transactions enable credit institutions to achieve a reduction in the amount of regulatory capital they are required to hold. This is done by transferring the credit risk in respect of certain assets to other parties as part of either a traditional cash securitisation or a synthetic securitisation. In other words, SRT allows banks to achieve prudential balance sheet and leverage ratio benefits.

3.6. Households' financial assets

Despite the significant increase of EU household financial assets over the last 20 years, from almost EUR 14 trillion in 2000 (or 177 % of GDP) to EUR 32 trillion at the end of 2020 (or 237 % of GDP), retail investor participation in capital markets remains low as compared to the US[23] (see *Figure 25*) . In 2020, 32 % of EU27 household financial assets were held in securities either directly or via mutual funds, while in the US 51 % of financial assets are held in securities. Among the well-documented factors contributing to the difference in households' participation in capital markets are: the risk aversion of most European households, the cultural habit of allocating savings to banks, as well as differences between the two regions related to tax treatment, regulatory treatment of pension systems, financial development, and banks' credit policies, among others.

Figure 25. Households' financial assets in in the EU27 and the US (% of total financial assets, average 2015-2020)



Notes: The category 'Other financial assets', for the EU includes: other accounts receivable, financial derivatives, and loans. For the US it includes: other miscellaneous assets, and loans.
Sources: Eurostat, FRED and Eurostat.

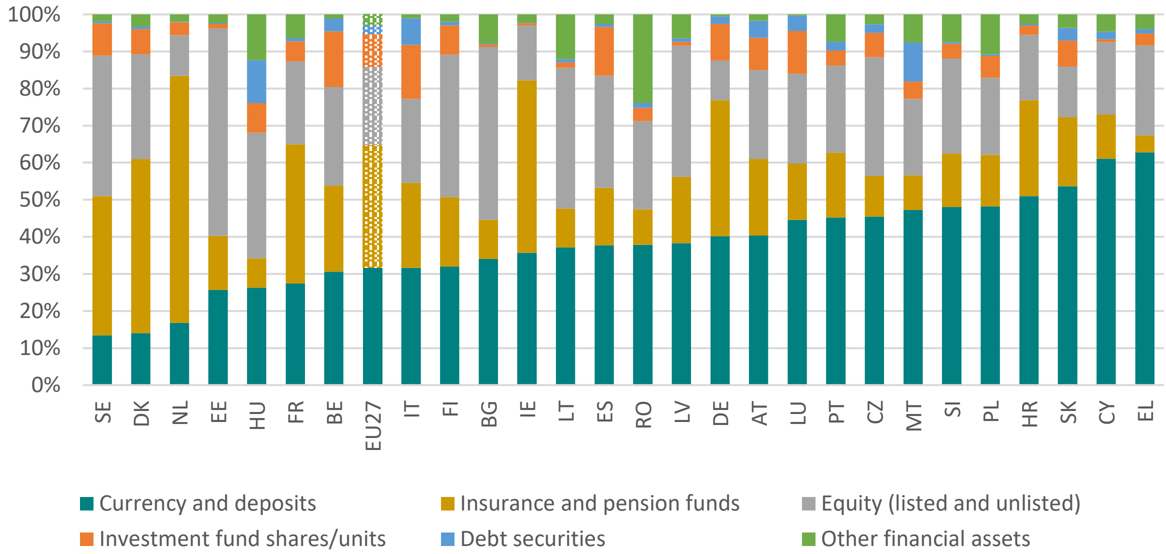
With regards to the proportion of assets held under cash and deposits, this is much higher (31 %) in Europe than in the US (12 %). This means that long-term financing options for enterprises and potential long-term returns for EU savers are rather limited. As for household assets in insurance and pension products, the share in total savings is similar in the EU (33 %) and the US (35 %).

The composition of household financial assets varies significantly across EU Member states (see *Figure 26*). While some countries (i.e., Cyprus, Greece, and Slovakia) show very large financial assets held in currency and deposits, others (i.e., Denmark, Ireland, and the Netherlands) have

[23] US households' financial assets stood at EUR 83 trillion, or 473 % of GDP, in 2020.

much higher proportions invested in insurance and pension funds[24]. Among the countries where the proportion of assets held by households in deposits is lower than the EU average, those which have significant pension funds (e.g., NL, DE, DK, and FI) have a stronger proportion of household assets in insurance and pension savings compared to securities. Finally, as for equity investment, with the exception of the three Baltics (Estonia, Latvia, and Lithuania), the two Nordics (Finland and Sweden) and Bulgaria, where households invest on average 42 % of their assets into equity, the remaining countries are very close to the EU27 average of 21 %.

Figure 26. Households' financial assets across Member States (% of total financial assets, average 2015-2020)

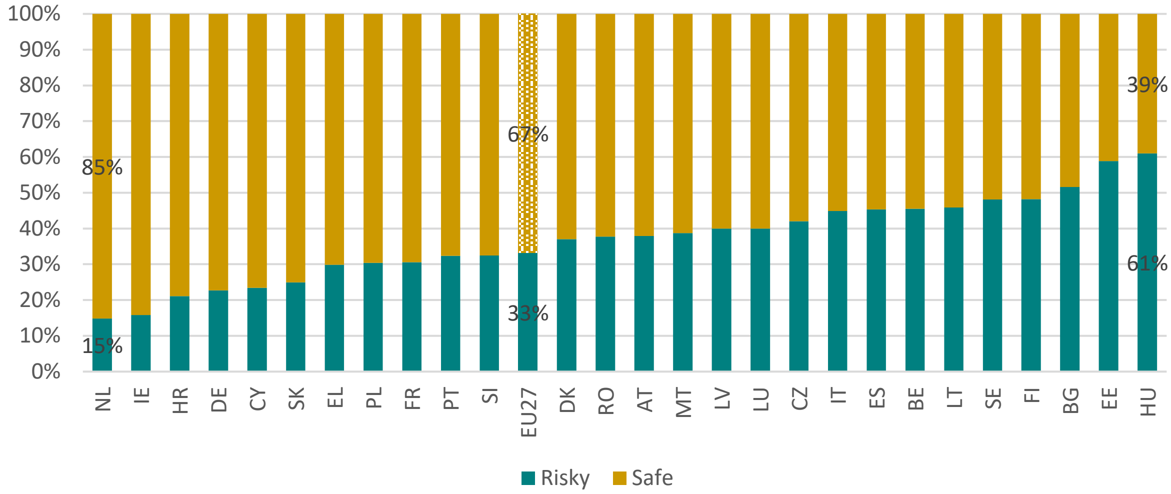


Note: The category 'Other financial assets' includes: other accounts receivable, financial derivatives, and loans.
Source: Eurostat.

The above-described composition of financial assets across Member States confirms the risk-averse nature of EU households (see *Figure 27*). In eleven of the 27 European countries, households hold a level of safe assets (defined as deposit and savings accounts, and insurance and pension schemes) that is above the EU27 average (67 %), with peaks in countries such as the Netherlands (85 %) and Ireland (84 %), and lows in Estonia (41 %) and Hungary (39 %). By comparison, US households hold approximately 52 % of their financial assets in safe assets. This is an illustration of the 'stock-market participation puzzle' commonly mentioned in the literature, referring to the low share of households holding stocks (Haliassos and Bertaut, 1995; van Rooij *et al*., 2011; Arrondel, *et al*., 2016).

[24] It is important to note here that households financial assets held in insurance companies and pension funds may be indirectly invested into equity. For example, and according to the latest data from the European Insurance and Occupational Pensions Authority (EIOPA), Danish and Swedish insurance companies have the highest share of their assets allocated into equity (22 % and 23 % of the assets under management). Similarly, based on data collected by Investment & Pensions Europe (IPE), pension funds in Finland and the Netherlands allocate almost half of their assets into equity (50 % and 48 %, respectively).

Figure 27. Share of households owing risky and safe financial assets across Member States (% of total financial assets, average 2015-2020)



Notes: Risky financial assets are defined as mutual funds, bonds, and shares. Safe financial assets compromise currency and deposits, and insurance and pension funds. Other financial assets, such as other accounts receivable, financial derivatives, and loans are excluded.
Source: Authors' elaboration based on data from Eurostat.

Focusing on household stockownership over the years, although wide differences between countries persist, there is a declining trend in the share of equity holding in households' portfolio. The EU27 average of equity holding as percent of total financial assets has dropped from 25 % in 2000 to 21 % in 2015 and has remained at that level since then. Stock market participation – either directly or indirectly (through mutual funds and other managed investment accounts) – in Sweden and Finland (39 % and 38 %, respectively) is thrice as high as in the Netherlands and Germany (11 % for each of the two countries) and almost two times that of France (23 %).

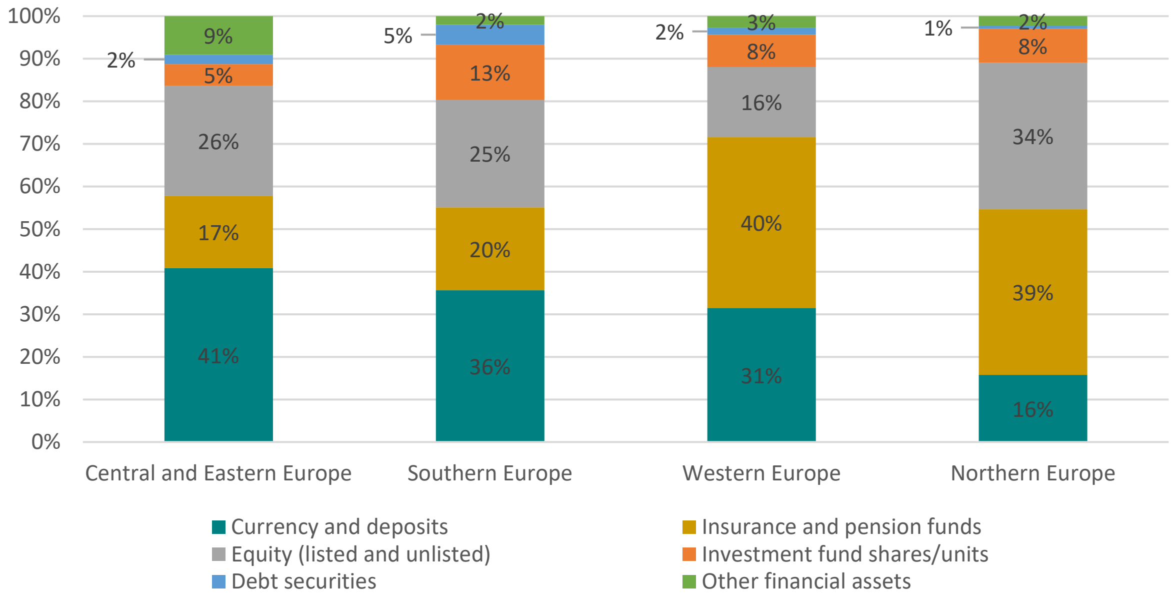
Among the drivers of the high households' participation in equity markets observed in the Nordics (and Baltics) are the maturity of capital markets, the pension system, the financial literacy of citizens. For example, countries like Finland and Sweden where savers have a significantly higher proportion of their assets in securities, also have more developed capital markets (in terms of market capitalisation as % of GDP)[25].

Moreover, countries with a pension system where capitalisation plays a strong role (with pension funds or mandatory or auto-enrolment defined contribution pension schemes) tend to have a greater retail participation rate in capital markets (either directly or indirectly) than

[25] Another reason that may explain households allocation into equity, is tax. The debt-equity tax bias and the fact that a number of tax systems contain biases towards debt, while no such measures are foreseen for equity, can create distortions in the allocation of financial assets. Such biases can take the form of interest payment deductibility as it is Belgium, France and Germany (OECD, 2017) or taxation of capital gains only when these gains are realised through asset sales (Campbell, 2006). Some countries have reduced mortgage interest rate deductibility, while others have introduced incentives to reduce the preference for debt investment through allowances for equity holding (Mooij, 2012; Princen et al., 2020).

those where pay-as-you-go systems are the main source of retirement revenue (see *Figure 28*)[26]. A contributing factor is the implementation of ambitious pension reforms in order to encourage (and even compel households) to save more in both occupational and personal pension plans (EFAMA, 2020). This creates the conditions for a sustained increase in the holding of capital markets instruments (as is the case in Denmark and Sweden).

Figure 28. Households' financial assets across European regions (% of total financial assets, average 2015-2020)



Note: The category 'Other financial assets' includes: other accounts receivable, financial derivatives, and loans.
Source: Eurostat.

Although citizens of Nordic countries score highly in global research reports in terms of financial literacy (71 % in Sweden and Denmark, and 63 % in Finland) (Batsaikhan and Demertzis, 2018), only about a third of adults worldwide are financially literate (Klapper *et al.*, 2015). Based on a global survey of over 9000 respondents from 9 countries (among them France and Germany), a recent study found that 40 % of people who choose not to invest make this decision because they simply do not know how (WFE, 2020). Furthermore, roughly 70 % of all respondents would be more likely to invest, or would invest more, with expanded financial education. These findings highlight the importance of enhancing personalised advice for retail investors, as well as improving retail investor access to information and adequately calibrating investor protections (see box below 'The Nordic example').

[26] In several Northern European countries (e.g., Denmark, Estonia, Finland, Latvia, and Sweden), nearly all the working-age population participates in a mandatory retirement savings plan (invested in fixed income and equity instruments mainly) and in these countries, savings remaining in deposit accounts are relatively limited.

The Nordic example

The Swedish *Investment Savings Account (ISK)* is a non-pension financial savings product introduced in 2012 with the aim of encouraging greater retail investor participation in capital markets through savings accounts with tax advantages.

Unlike other traditional share trading accounts, no capital gains are taxed through an ISK account. Instead of capital gain tax, investors are charged a yearly standardised tax. As a result, the buying or selling of shares does not need to be recorded or reported to the tax authority (Skatteverket). In fact, ISK makes savings simpler, more favourable, and easier for consumers to save in shares and funds. Investment assets in an ISK are limited to the following securities: i) financial instruments that are admitted to trading on a regulated market or an equivalent market outside the EEA; ii) financial instruments traded on a trading platform in the EEA; and iii) units in investment funds (fund units).

The ISK is similar to products developed in other countries like the Individual Savings Account (ISA) in the UK (1999), the Share Savings Account (ASK) in Norway (2017), the Aktiesparekonto in Denmark (2019), or the equity savings account in Finland (2020).

3.7. Financial market infrastructures: CSDs and CCPs

Central Securities Depositories (CSDs) support issuers and investors by processing and settling financial instrument contracts after the trading bargain is made, deploying efficient and resilient systems and collateral arrangements. Smooth and safe settlement of securities trades is one of the conditions for ensuring confidence in market trading activity, and in turn creating liquid capital markets. The ECB's Target2Securities (T2S) and the CSD Regulation (CSDR) have progressively built higher levels of safety, regulatory harmonisation and operational freedom for EU issuers and investors. But they have not yet achieved the objective of integrating or consolidating markets.

The EU's and Europe's market practices as regards settlement of securities remain embedded in the Member State which is home to the domestic CSD. This effectively means that there is almost one CSD per Member State (see *Table 4*), it does have the advantage that the CSD and its ecosystem can adequately support local or regional market development. CSDs provide proximity to local issuers and investors and provide asset protection under national law. Furthermore, a CSD and its ecosystem serve the sovereign's bond market, as well as the execution of the ECB's monetary policy, in the context of the European System of Central Banks (ESCB). The volatile environment over the last three years (i.e., Brexit, Covid, implementation of Russian sanctions) have shown that CSDs are crucial underpinnings of markets.

Table 4. List of authorised CSDs across the EU (as of August 2022)

Country	Name of CSD	CSD Group
AT – Austria	OeKB CSD	Wiener Börse
CZ – Czech Republic	CSD Prague	
BE – Belgium	Euroclear Bank	Euroclear
BE – Belgium	Euroclear Belgium	
FI – Finland	Euroclear Finland	
FR – France	Euroclear France	
IE – Ireland	Euroclear Bank	
NL – the Netherlands	Euroclear Nederland	
SE – Sweden	Euroclear Sweden AB	
BG – Bulgaria	Central Depository AD	Bulgarian CSD
CY – Cyprus	Central Depository Central	Cyprus Stock Exchange
DE – Germany	Clearstream Banking AG	Deutsche Börse
LU – Luxembourg	Clearstream Banking S.A.	
LU – Luxembourg	LuxCSD	
DK – Denmark	VP Securities A/S	Euronext
IT – Italy	Monte Titoli	
PT – Portugal	Euronext Securities Porto	
EE – Estonia	Nasdaq CSD Group	Nasdaq
LT – Latvia		
LV – Lithuania		
EL – Greece	ATHEXCSD	Athens Stock Exchange
ES – Spain	IBERCLEAR	SIX Group
HR – Croatia	SKDD/CDCC	Zagreb Stock Exchange
SI – Slovenia	KDD	
HU – Hungary	KELER	Budapest Stock Exchange
MT – Malta	MaltaClear	Malta Stock Exchange
PL – Poland	KDPW	KDPW
RO – Romania	CSD Romania	Bucharest Stock Exchange
SK – Slovakia	CDCP	Bratislava Stock Exchange

Note: The CSDs listed here have been authorised by ESMA in accordance with CSDR. Other national CSDs are not included in this list. For example, the second CSD in Greece – the Bank of Greece Securities Settlement System – is managed and run by the Bank of Greece. As it is a central bank owned CSD, it is not authorised by ESMA and hence does not appear on this list.
Source: ESMA.

CSDs support cross-border activity through infrastructure links with other CSDs, thereby connecting EU issuers to EU investors, but CSD interoperability is not perfect. Two international CSDs (i.e., Euroclear and Clearstream) ensure international and global connectivity as '[…] a unique European piece of financial market integration, which the EU should leverage to achieve market integration and global relevance for EU financial markets' (Next CMU High-Level Group, 2019). For the eurozone, the ECB's T2S now acts as the ultimate platform for securities settlement. T2S has not (yet) reached its objective of reducing the cost of settlement in the EU[27], or of further integrating back offices in Europe, but it has acted as an important driver for alignment amongst local and regional markets. Digitalisation of capital markets will bring about network effects that should overcome some remaining barriers in settlement markets, or the multi-centred financial Europe.

The CSDR established an EU-wide harmonised regulatory framework for CSDs. A single passport for CSDs was introduced on the basis of a harmonised regulatory regime, which also includes cash penalties for failed transactions. The 2021 Review, however, found the passporting requirements burdensome and the compliance costs disproportionate, above all for cross-border business. These and other targeted areas for improvement are currently being discussed in the CSDR REFIT proposed by the EU Commission in March 2022. In the meantime, the US is expected to move to T+1 in the course of 2024, with the objective of reducing market and counterparty risks on US equity transactions. This has triggered a similar debate in the EU around the implications and appetite of the markets to compress the settlement cycle further, but Europe, which pushed for T+2, seems not to be ready yet (Thomadakis, 2022).

The structure of CSD markets in Europe affects central counterparty clearing houses (CCPs) in their day-to-day operations. The CCP landscape is less fragmented in Europe compared to the CSD market (see *Table 5*), as central clearing tends to concentrate in a few large financial centres. Whilst there are 17 EU CCPs on clearing equities, the clearing of EUR government debt markets is concentrated in few EU CCPs (mainly LCH SA in Paris), and IRS and CDS are cleared respectively in Eurex and LCH SA when it comes to EU CCPs (Thomadakis and Lannoo, 2021). The digitalisation of capital markets has the potential to lead to quicker and more tangible results, especially when applied to FMIs with significant network effects (e.g., CCPs and CSDs). Digitalisation can ensure increased connectivity between individual financial centres and their respective liquidity pools, thereby effectively becoming an alternative to a single EU financial centre.

[27] The costs to build the system was much higher, and the expected revenues fell with the deep decline in the number of settled transactions after the financial crisis, leading to price increases. According to the TARGET2 Pricing Guide, prices per transaction are at EUR 0.80 (flat rate) or starting from EUR 0.60 (fixed rate). These are on the higher end of the 2008 ECB's business case for T2S, with substantially higher costs for the operation of the system (Lannoo and Valiante, 2012). In addition, technological progress means that T2S would have been built using different techniques today, such as blockchain, at a possible lower cost (Benito, 2012; ECB, 2017).

Table 5. List of authorised CCPs across the EU (as of August 2022)

Country	Name of CCP
AT – Austria	CCP Austria Abwicklungsstelle für Börsengeschäfte GmbH
DE - Germany	Eurex Clearing AG European Commodity Clearing
EL – Greece	Athens Exchange Clearing House (Athex Clear)
ES – Spain	BME Clearing
FR - France	LCH SA
HU – Hungary	Keler CCP
IT – Italy	Cassa di Compensazione e Garanzia S.p.A (CCG)
NL – Netherlands	European Central Counterparty N.V. ICE Clear Netherlands B.V.
PL – Poland	KDPW_CCP
PT – Portugal	OMIClear – C.C., S.A.
SE – Sweden	Nasdaq OMX Clearing AB

Note: The CCPs listed here have been authorised to offer services and activities in the EU in accordance with Regulation (EU) No 648/2012 on OTC derivatives, central counterparties, and trade repositories (EMIR).
Source: ESMA.

4. How to build an investable and competitive capital market

Strengthened market financing contributes to a more balanced financial system, enhances innovation, and facilitates the green and digital transition. It leads to higher levels of economic growth and greater private risk sharing. It should, accordingly, have a higher policy priority. It also requires a nuanced policy development beyond the traditional focus on full integration of the 27 Member States and related extensive harmonisation. In particular, a sharper focus on the development of domestic and regional markets, and on their gradual integration, might deliver better results over the medium to long run than full-blown harmonisation.

In order to secure the benefits of well-functioning and integrated EU capital markets, we propose a policy focus on the following actions: 1) prioritization of local market development and growth; 2) engagement with retail investors; 3) reaping the full benefits of mutual recognition and interoperability; 4) ensuring regulatory stability and continuity; 5) development of key performance indicators (KPIs) for competitiveness and attractiveness; 6) reconnecting policymakers and market actors; and 7) a focus on the market ecosystems.

4.1. Prioritise market development and growth

> ‘Europe is lacking ambition, scale and strength, as national capital markets have been developed in a very heterogeneous way.’

With the continuing diversity of capital market structure in the EU, the policy priority should be to advance market development locally and regionally, as a step towards a more unified EU market. Stronger local capital markets are a pre-condition to have a more EU-wide capital market. Southern and Central and Eastern European markets have not advanced over the last 10 years, as illustrated by the analysis in chapter 3, indicating that a policy change is needed. This is all the more the case with private markets. Harmonisation is not a holy grail, and should not be an end in itself, especially if it does not lead to further development in less advanced markets.

Europe has taken a long time to recover from the financial and sovereign crisis. In the intervening period, market change globally has been significant. The US adjusted rapidly after the crisis period and advanced its lead, other markets emerged, while the most developed European financial centre (the UK) was left to compete with the EU from the outside. Local market development is accordingly all the more a necessity in light of these international developments.

As a practical recommendation, each EU Member State should draft a plan for the development of its own capital market, coordinated by the EU to ensure a sharing and uptake of best practices (something along the lines of European Semester Country Reports used for the macro-economic policy coordination). The aim of these national action plans should be to allow savers to become investors and capital providers, and to finance economic development via the capital markets, especially for the green and digital transition.

These national plans may reveal where EU rules are causing difficulties, but also where they are helpful. They may also highlight the value of optionality. Some EU pieces of regulation are optional, for example the European Social Entrepreneurship Funds (EuSEF), the European Venture Capital Funds (EuVECA), or the Pan-European Personal Pension Product (PEPP). Although these schemes are yet still to deliver expected results, the idea of opting-in is useful, particularly as a way for the EU (and local markets) to experiment in the area of product harmonisation. There are also market segments, for example covered bonds markets, where there is no full harmonisation and no commonly agreed definition, yet national specificities are not an obstacle to integration — there is nothing more distinct than underlying assets of mortgages in different Member States. National plans may shed light on what works and what does not.

4.2. Engage retail investors

'European retail investors participation into capital markets is very low, partially due to the lack of suitable available frameworks.'

Long-term savings are not sufficiently deployed in the EU. The bulk of EU citizens' savings is currently sitting in saving accounts, providing very limited returns, and not actively contributing to the investments that are needed to help to move the EU economy towards a green and digital future. A retail investment strategy is needed that makes it easier and simpler for consumers to invest in financial markets. Such a strategy should have a compelling message, with a clear and tangible narrative – building an investable and competitive EU capital markets is a 'people's project'. In addition, it should help to close the significant gap in pension saving across the EU by supporting consumer take up of long-term savings products: giving the acute and increasing demographic challenges. The retail markets are in the 'DNA' of capital market regulation and policy in the US; the same should be true for the EU.

This retail investment strategy should be composed of several elements including providing better information on available products, additional and better guidance with regards to risks, simpler and more accessible products, and effective investor protection. In particular, the wealth-generation effect of long-term investments in equities or alternatives is not known to many savers. Within Europe, for example, there is a tradition in the Nordics countries (i.e., Denmark, Finland, and Sweden) of direct investment into equity as a normal part of a saving plan (i.e., Investeringssparkonto or ISK). Moreover, pension funds in these countries (e.g., second pillar pension plans in Denmark) invest more heavily into equity and are able to deliver double digit returns, even in turbulent periods like the last three years (OECD, 2022b). Thus, more needs to be done to facilitate and communicate long-term investment opportunities, including sharing of best practices by Member States.

Having retail investors directly involved into capital markets will not only allow them to grow their wealth and capacity to meet their needs over the long term, but also provide European businesses with the capital to grow and invest into the twin (green and digital) transition. Making retail investors a dynamic part of the capital markets ecosystem is a challenge. It requires, for example, supporting appropriate access to investment venues and wider investment possibilities. It also requires ensuring that retail investment is not burdened by comparative disadvantages, driven, for example, by taxation regimes, over- versus under-regulation of different trading venues, and the relative attractiveness of certain types of assets (e.g., crypto) versus others.[28] Corporate bonds, for instance, can be an effective alternative to deposits, while a review of wrapped retail products might also be necessary.

To take another example, investing directly on a trading platform is mostly associated with equity and exchange-traded funds (ETFs). This form of investment implies that the investor is autonomous and does not depend on a financial advisor. In this context, investor protection is related to the extensive transparency that regulated trading venues provide on price and volume, as well as to the material disclosure obligations applicable to financial instruments admitted to trading venues. OTC investments, by contrast, operate under different regulatory systems, albeit that the protections of the EU's execution-only regime and related conduct rules would apply. The corporate debt market remains largely OTC, for example, with limited direct retail access. Retail investment in exchange-traded bonds carries advantages and disadvantages, but it can be associated with the highest levels of mandated transparency.

Similarly, where the retail investor has the capacity to do so, it can be cost-efficient to open a retail account and transact on a digital trading platform. But many traditional providers are not in a position to provide this because of regulatory constraints which may not be appropriate to the context (e.g., know your customer (KYC), anti-money laundering (AML), packaged retail investment and insurance products (PRIIPS)). As a result, ETFs, for example, are often not available to retail investors (and are rarely advertised by banks) but are primarily a professional market investment despite the advantages for retail investors. Ultimately, there should be a level-playing field between digital platforms and incumbents as regards of investor protection, and proportionality in the application of regulation. This will ensure that large amounts of savings do not go into unregulated spaces.

[28] On grounds other than their capacity to meet the needs, financial situation, and objectives of retail investors.

It might, for example, be more convenient for a retail investor who wishes to trade directly to go to a platform, for crypto or fiat money, which does not fall within the current perimeter of regulation. The growth in crypto accounts (Auer *et al*. 2022) might in this regard be seen as a worrying trend, particularly given what is suggests as to the risk appetite of average retail investors. Account thresholds to deal in crypto are much lower than those that apply in regulated space (e.g., in shares or ETFs) (OECD, 2022a), while marketing risks can be considerable (CSA-IIROC, 2021).

The role of EU is to ensure investor protection, drive consistent supervision, and share best practices in facilitating retail investors' participation in capital markets. The UCITS regime might be regarded as a success in this regard: it is a facilitative legal regime with an adequate regulatory framework and a supervisory structure that is getting stronger (with ESMA, for example, focusing on UCITS costs).

4.3. Reap the full benefits of mutual recognition and interoperability

'Europe urgently needs to develop interoperability, push for venue convergence, and pan-European IPOs.'

Ideally, the European legal framework should move towards unified listing requirements, and harmonised insolvency laws, taxation, enforcement, and execution processes. However, the legal and political challenges are considerable. In the meantime, the core principles of mutual recognition and interoperability can facilitate the development of capital markets. Mutual recognition has worked well in some market segments (e.g., UCITS, AIFMD, covered bonds), but not in others, for example in relation to IPOs and listing. Pan-European IPOs should be an important tool in support of capital markets integration, but also with regards to attracting issuers and operators from non-EU countries. They can also be an important means for harnessing EU-wide liquidity and create network effects.

National barriers still remain as is suggested by the scarcity of pan-EU IPOs. Although a company from one Member State can be listed in another Member State, a pan-European offering is in practice impossible. For example, the NCAs might invoke that the degree of investor protection in the Member State where listing takes place is not the same as in the home country, or vice versa, even when there is an automatic recognition of the prospectus. Obtaining mutual recognition for IPOs is politically challenging and will require significant time. In view of the speed at which technological developments are advancing, digitalisation may be a faster route to reduce the impact of national differences.

The development of interoperable platforms with common rules and standards could enhance connections among current financial centres and their respective liquidity pools. Open and interoperable systems/platforms will re-distribute the benefits of network effects in a fair and transparent manner. The EU has a strong financial system with the network effects that can provide for the 'catalyst effect' to achieve the policy objective of digital and attractive capital markets.

4.4. Ensure regulatory stability and continuity

> **'Heterogeneous and multi-level legislation, as well as a divergence in supervisory interpretations is fragmenting European capital markets and overburdening access to capital at all stages.'**

Regulatory harmonisation has served the EU well in many aspects. It should not, however, be an end in itself, but duly justified. Framing principles are needed to check when a measure is proposed or revised, in particular regarding the proportionality and relevance of rules, how strong investor outcomes will be achieved, how market finance will be facilitated and how competitive markets are supported. Review clauses set out in legislation have been recognised as an important tool to monitor the effectiveness and efficiency of legislation (Weber *et al.*, 2017). However, they lead to eternal legislative change and can make regulation unpredictable, complex and very technical.

An analysis of the legislative output of the parliamentary term 2014-2019, reveals that more than two-thirds (68.5 % or 274 out of 400) of the acts adopted during that period contain review clauses (Krišto, 2022)[29]. In 76 % of them, the review clauses are core (i.e., heavier or substantive review provisions), while the remaining contain only lighter provisions (i.e., non-core reviews). Although there is a balance between the acts that require a one-off review (135 of the 274) and those with repetitive reviews (139 of the 274), the latter are usually performed every three to five years.

Priority should also be given to improving the cost-benefit analyses and impact assessments that accompany legislative proposals or amendments. Recent examples (e.g., the mandatory buy-in regime under the Central Securities Depositories Regulation, the Settlement Discipline Regime) highlight the fact that the Commission's framework for impact assessments has significant gaps (ECA, 2022). To ensure that upcoming reforms do not generate obstacles to market participants, the Commission's approach to new legislations should be changed (AMAFI,

[29] Of the 44 files handled by the Committee on Economic and Monetary Affairs (ECON), in 75 % (or 33) of them review clauses were pertained.

2022).[30] In particular, KPIs should be integrated in the impact assessment of any new legislation, and clear performance measurements should be developed that clarify and set the tone and objective of the regulatory review process. A competitive European capital market requires a competitive regulatory framework.

Encouraging greater supervisory convergence is the way forward, but this cannot be achieved without ensuring NCAs are fully equipped to deal with both national and cross-border issues. Peer reviews should be nimble and faster, and used to strengthen capital markets. Resources should be placed into agile tools and measures that support market development rather than into high-level projects that will only yield results in medium to long run. Soft law, in particular, is a useful tool that is easier to deploy than legislation.

One way or another, supervision is, and will remain, a competitive issue. A multi-layered, complex, and unwieldy supervisory structure could be a significant impediment to the development of capital markets in the EU. There is need for a change of paradigm. A single supervisor could drive cross-border integration but remains a politically sensitive issue for most national policymakers, market participants, and NCAs.

4.5. Develop KPIs for competitiveness and attractiveness

'Building a genuine European capital market should be pillar of the EU's competitiveness and attractiveness, and its success should be assessed against its contribution to it.'

A series of KPIs should be agreed upon to measure the competitiveness of the EU's capital markets, of the financial market participants and of the efficiency and effectiveness of the supervisory structure. Since 2005, the ECB has developed composite indicators of financial integration (for prices and quantities) with the purpose of capturing the evolution and the current state of financial integration within the euro area and across financial market segments (e.g., money, bond, equity, retail banking markets). However, these indicators do not capture market development as such, but rather the evolution and degree of financial integration.

For capital markets in particular, the European Commission in 2021 developed 34 indicators which were structured around three overarching objectives: i) making financing more accessible to the EU companies; ii) making the EU an even safer place for individuals to save and invest long-term; and iii) integrating national markets into a genuine single market. These

[30] For example, there are provisions in regulations that were only amended after they have proven detrimental to the attractiveness and competitiveness of European markets and market participants. Among them, is the ability of insurance companies to invest in capital under Solvency, or the extra-territoriality of the Derivative Trading Obligation (DTIO) under the Markets in Financial Instruments Regulation (MiFIR).

indicators monitor progress in building a single European market for capital, but they do not compare the competitive position of the European market and their players to other international markets. In fact, the Commission's indicators enable the comparability within the EU and across Member States, not with other jurisdictions.

Alongside the ECB and Commission indicators, the representative organisation of wholesale financial markets operators at European level, the Association for Financial Markets in Europe (AFME), has published KPIs since 2018. These are structured in the form of composite indicators in order to assess progress across the main priorities of the first Action Plan. The purpose of AFME's KPIs is not only to quantify progress at the EU and Member State level, but also to compare it with non-EU countries.

What is missing from the already developed KPIs are:

1. The competitiveness of financial market participants established in the EU vis-à-vis foreign subsidiaries and branches, and competitors established outside the EU (e.g., the UK, US, Switzerland, China, Japan).
2. The attractiveness of EU markets (i.e., the EU as a whole, but national markets too) vis-à-vis non-EU markets (e.g., the UK, the US, Switzerland, China, Japan). Furthermore, these KPIs should be developed at national and regional level, providing insights into the different markets and their segments. In some Member States, for example, only the government issues securities (bonds) in the capital markets.
3. The efficiency and effectiveness of supervision and the supervisory structure. Despite the fact that this may not be a straightforward exercise – given the difficulty of proving causality between supervisory actions and observed effects, and the availability of data – a combination of hard and soft data (Sijbrand and Rijsbergen, 2013) can help build outcome, output and input indicators to measure the effectiveness of supervisory actions and interventions (Hilbers *et al.*, 2013).

ESMA could set the targets against which those KPIs would be measured and be in charge of monitoring them. The outcomes and developments observed through these KPIs would form the basis for actions/activities by the involved/corresponding authorities and the European Commission.

4.6. Reconnect policymakers with markets

'Policymakers and industry must partner in an open and constructive manner if we want to build successful capital markets.'

One of Brexit's side effects was the loss of the voice of a global financial centre from the EU policy scene. The single market allowed Britain, and in particular the City of London, to emerge as one of the two global financial centres. While the EU retains significant capital market expertise, it is much less visible in the policy debates in EU capitals.

A continuous dialogue between the private sector and policymakers on how European capital markets can be further developed towards a genuine Union is currently absent. A high-level group of experts should regularly meet and update the EU Commission on market developments, as well as contribute to finding solutions on controversial matters. However, for such a group to be considered successful, there should be a strong commitment from governments, authorities and NCAs to support the group's work and facilitate its proposals.

Although many stakeholders/consultative groups exist at the level of European Commission and the agencies (i.e., ESMA and EIOPA), no group is sufficiently authoritative. In addition, groups advising the Commission are usually of an ephemeral nature. There is a need for a permanent group of industry participants to provide input to policymakers and the public at large.

With regards to the size of this group, it needs to be sufficiently large and representative of all parts of the financial value chain, and thereby capture different industry actors and realities across Europe. At the same time, it has to be sufficiently small and flexible, and consist of both market representatives and academics.

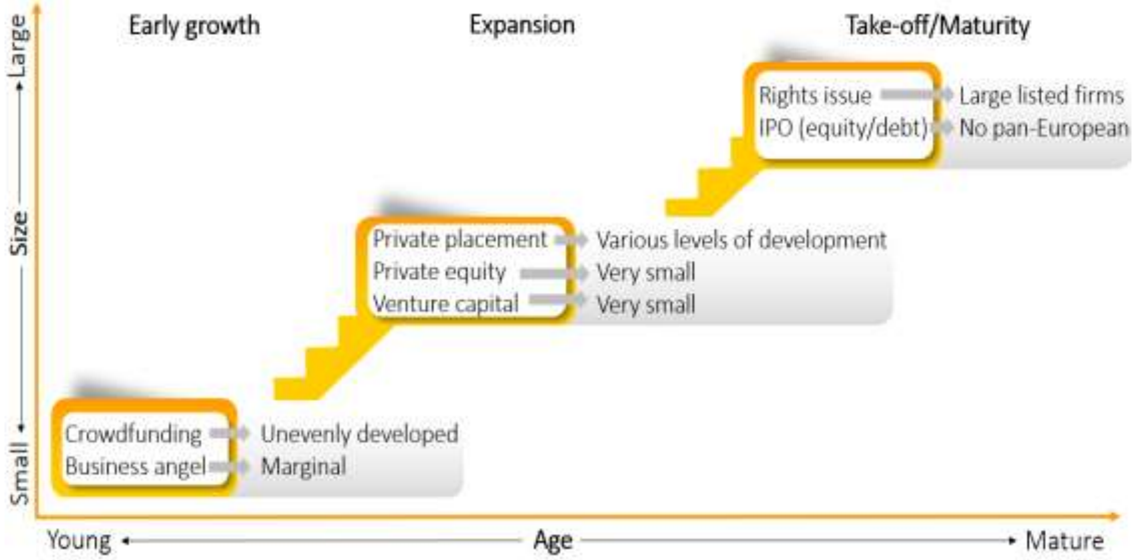
Its mandate will be to inform EU policymakers on the state of European capital markets, comment on macro developments and their impact, advise on regulatory issues, and make recommendations. For this reason, it will be useful to agree on a limited set of KPIs (along the lines mentioned in section 4.5 above) to guide policy initiatives and reflect on regulatory matters. The group should meet regularly and on a permanent basis.

4.7. Focus on market ecosystems

> **'Too often, EU SMEs have to rely on local banks for financing their different stages of growth because there is no other capital available. Building market ecosystems and unlocking securitisation can help solve that problem.'**

Some EU Member States have created an environment whereby issuers and investors have access to financing/investment tools that are adapted to their size and risk appetite. Especially as regards SMEs access to finance, it is essential to take such local experiments into account. A 'funding escalator' can be a useful tool to identify different market ecosystems and detect possible gaps (see *Figure 29*).

Figure 29. The funding escalator



Source: Authors' elaboration.

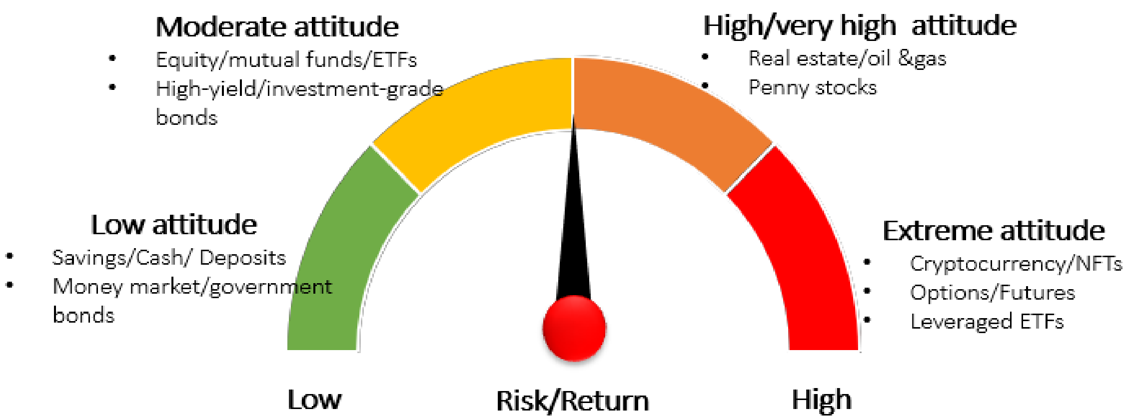
Listing requirements and regulatory burdens across firms' entire life cycle are not appropriately calibrated across Member States. Financial centres have adapted listing requirements in response to the opportunities raised by Brexit, with their own infrastructure as well as advanced services for corporates, but similar standards have not yet emerged across the EU.

Different approaches should interact and co-exist; a variety of rules can be accepted where it yields better results or allows for organic development of market standards. In practice, the Commission should measure, compare and report progress made by Member States towards the development of their capital markets and the implementation of the necessary actions at national level. Knowing what works best and the best practices that can be duplicated by other Member States helps to develop European capital markets significantly. When standards diverge, harmonisation is not always the solution.

More attention needs to be paid to support liquidity in markets. SME issues are not traded sufficiently, as very few banks are ready to take on the market making role. Secondary market fragmentation for smaller stocks can be harmful for spreads and trading costs, but a one-size-fits-all structure may not work. There are also dangers to regulation that is designed to weaken incumbency, for example the reform around the unbundling requirement in MiFID II.

For retail investors, an 'investment riskometer' could be an easy tool to clarify the types and characteristics of particular investment products, the 'leakage' around complex products not undergoing suitability assessments, and risk indicators in particular (see *Figure 30*). ESMA has recently published the first exercise on the development of key retail risk indicators (RRIs) that could feed into the development of a standard riskometer.

Figure 30. The risk barometer



Source: Authors' elaboration based on WEF (2022).

Equally important, and given that banks will remain one of the core providers of lending services to retail investors and medium size businesses in the EU, it is essential to make sure that there is an efficient and well-functioning securitisation market in place. This will allow for a better balance between bank financing and market financing, and favour risk-sharing across the EU. Reviving the overall securitisation ecosystem, from issuers to investors, and from rating agencies, to accountants, lawyers, regulators and supervisors, is necessary. For example, given the anemic securitisation market, the availability of skills is a challenge, notably for insurance companies, which have been crowded out of the market due to Solvency 2's excessively punitive rules. Only a substantial flourishing of the securitisation market can ensure a critical mass of transactions, which in turn is a prerequisite for the various players to maintain a dedicated team. The set of recommendations put forward by the High-Level Forum on CMU (2020) should form the basis for revitalising the European securitisation ecosystem.

5. Policy recommendations

To re-energise the EU's capital markets, we propose the following recommendations:

1. Capital market **development**, in all its dimensions, **should precede integration** measures as an EU policy objective. The diversity in European capital markets must be acknowledged, and priorities should be recalibrated in this direction.

2. **Retail investors** should be **at the centre** of the EU's narrative for capital markets, with industry and policymakers providing **efficient solutions for long-term savings**.

3. To foster efficiency and scalability, the EU needs to enforce **mutual recognition** and **interoperability** in capital markets, recognising that harmonisation is no panacea for achieving EU-wide products.

4. For Europe to become investable, attractive, and competitive, it should remain as **open** as possible and guarantee **stability** and **continuity** in the regulatory landscape, while strengthening consistency in supervisory outcomes. This includes making more and better use of **peer reviews** undertaken by the ESAs and **streamlining supervisory structure**, as and when appropriate, to ensure more competitive capital markets.

There is also a need to strengthen the available tools that will facilitate better monitoring and the assessment of progress towards overcoming fragmentation and creating a genuine capital markets union. We propose:

5. The development of a comprehensive **set of KPIs** on the **competitiveness** of EU actors and the **attractiveness** of EU capital markets vis-à-vis non-EU markets. A specific entity should oversee the tracking of these KPIs.

6. A **high-level markets advisory/consultative group** should be set up at EU level to regularly convey its findings to policymakers.

7. A '**funding escalator**' should be used to monitor local/regional market ecosystems, an '**investment riskometer**' will help assess channels for retail and institutional investment participation in markets, while an efficient **securitisation market** will make loans more marketable, free up banks' capital and enable them to renew their capacity to distribute credit, while benefit the long-term growth of the EU economy.

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